SCHOOL AND SOCIETY

Volume II | Saturday, July 24, 1915 | Number 30

THE DISTINCTIVE CONTRIBUTION OF BIOLOGICAL STUDY TO THE LIFE OF THE STUDENT[1]

It was because of several years of experience in talking over the question with students and in noting the frame of mind of numerous teachers it has been my pleasure to meet, that I was persuaded to propose the subject noted on the program as the basis for our thought, for a few minutes on this occasion. The subject is one which has been presented in one form or another almost innumerable times, so that I should perhaps apologize for again bringing it to the fore; but since I claim no originality or special cunning in conceiving such a subject, I will simply make the apology without begging any one's pardon.

We all know what it means to find in one's class students who are but semi-interested in the subject of biology, and who find it difficult to say honestly, without embarrassment, why they chose or were compelled to take the work, save as its completion, with passing grade, will give them so many more hours of credits needed for graduation. We all know, on the other hand, the peculiar pleasure and recompense there is in finding, now and then, a student who is dead-in-earnest and gleeful in his interest and pleasure in the biological work under way; yet these same persons, overtaken on the way home or at dinner by a friend, and on being asked just why they care for the study of worms and woods, of suckers and seeds, of flies and ferns, of fish and flowers, halt in astonishment and gaze, that any one should be so dense to and ignorant of some of the most consequential facts in this world. In the midst of their astonishment, however, and endeavoring to defend their enthusiasm, they find themselves in the same position as a young friend of mine who was talking to my small son recently—the date was about the middle of February: "Why, you don't know what we mean by Hallowe'en, do you? Well, now, I'll just have to tell you." With the situation very vivid in her own mind, she took the boy into her lap that the instruction might be made more impressive, and continued at first very animatedly. "By Hallowe'en we mean—we mean by Hallowe'en—we mean, we mean—why, I don't believe I know just what it is for!" So with many of our pupils; interest is there; the inner certainty that the subject is worth something is there—there is entire conviction, even knowledge on that point; nevertheless, the young devotee is unable to give a clean-cut, adequate reply to the inquiry.

Much more deplorable is it to see a teacher working doggedly away, day in and day out, spending bodily vigor lavishly, talking fast and much, mechanically going at his or her work, doing it fairly well, or even very well, perhaps, but, after all, glad when the day is done, not eager for the next, gladdest when the monthly stipend comes, and wondering whether some other vocation, some other business, "*some other business,*" they say, might not yield more income, more satisfaction. Such a teacher is endeavoring to be a good actor; and mere acting, with results which, if good, are

[1] Read before the Biology Section, Association of Ohio Teachers of Mathematics and Science, Columbus, April 3, 1915.

not his fault, will always be the program of such a guider of the students' thoughts, unless he experience a change of heart and a conversion to his subject.

Amongst all of us, then, the question is: "Why are we willing to devote these only and short lives of ours to the distribution of the subject-matter of biology?" Indeed, I surmise there is not one of us who does not need occasionally to measure over the length and breadth of his stock in trade and calculate anew the peculiar and inestimable value of his goods.

Biology, then: If a student, why study it? If a teacher, why teach it?

At this juncture let us make a brief reconnaissance of the subjects ordinarily taught, and see in what relation the sciences stand to the others, and what in particular may be the place held by the biological group: this will permit us to discuss our immediate question more intelligently. A rather common division of all studies—one quite well enough for our present purpose—is that which refers them, one and all, to one or the other of two categories, viz.: the non-sciences or humanities, on the one hand, and the sciences on the other. These two categories are fairly distinct and proper, and may be defined roughly thus: The humanities are those studies such as language, literature, history, government, economics, sociology, mathematics, philosophy and the fine arts, such as painting, sculpture and music—which are the product of man. They have arisen either as a matter of his convenience (as language), a record of his doings (history), a compilation of his best conceptions and imaginings (literature), the laws which hold between nations and in society, found necessary and for the good of all through experience (government, economics, sociology), an expression of the numerical relations of parts to one another and to the whole of existing things (mathematics), his conclusions as to the probability of a supernatural and the relation of the natural to it (philosophy), the outflowing of his love of audible or visible beauty (music and art, with some elements of poetry). The gradual accumulation and formulation of material in these fields forms a priceless treasure as a possession of the race, and a chart for its guidance, without which individuals and nations would not only be at a standstill, but the place of this standstill would be in the midst of some unreckonable age in the past. The humanities are absolutely indispensable, and should occupy a large place in the life-long process of education.

But our main interest and query at the present moment concerns the sciences—and but one of them. In contrast to the humanities, they deal with "things not made with hands" and eternally associated with the entities of which the earth and its environment are composed. Of these, physics and chemistry deal with things not alive, their gross and minute structure, the laws which obtain amongst their parts and to which their outward phenomena constantly conform. A geologist must know physics, chemistry and biology, as he works with the non-living elements of the earth, and with the remains of things once alive—with the family albums of all living things, as it were!

Biology, as the word implies, is the study of all things which are alive: botany treats of the plant world, zoology of every living animal. In essence these two subjects are inseparable, for each field of the subject is characterized by the fact that it concerns that one unique substance, living matter, self-sustaining, repairing and perpetuating, and beside which the so-called seven wonders of the world are foolishness. Most of us are giving our time and strength to this portion of the world's truth, but we

can put no animation or momentum into our work, if we are unconvinced as to its value, its deep significance; and no student can be blamed for inattention and disinterest who elects a subject in a purely perfunctory manner, as a mere four- to ten-hour element in his college schedule, unless the teacher is so keen to the content of the subject for the student's life, that the latter soon sees it for himself.

It would probably be agreed to by us all that the value of any course of instruction depends upon three principal considerations and criteria: First, the content of the course *as a body of information*—as a definite addition to the familiarity of the man or woman with what we call "the world body of truth." Secondly, the study should be of value *as a training in a method of thinking*, a method of arriving at the truth. Thirdly, serious perusal of any truth, and the bestowal of precious time upon it, should bring into the life of the man or woman, not merely information, not merely a degree of mental discipline, but in the end, after a year or two, or three, perhaps after the special study has been completed and correlated with others, it should come to be a matter of inward richness, a kind of soul property; or as is more commonly said, *it should contribute to the philosophy of life*. Unless this last is true to some degree, it would seem that the subject has a rather shallow, decorative, perhaps commercial, or purely temporary significance, too little warranting the devotion of a human mind even for a semester.

The three contributions just mentioned should be demanded and exacted from every study, or it should be considered as doubtfully worthy a place in the curriculum; or, on the other hand, if the teacher so handles a subject that a student fails to secure each of these three benefits from it, such a teacher has questionable right to remain on the faculty of the institution. It matters not in what realm of study, the same criteria may be regarded as diagnostic of its value.

Placing our work, then, well into the light, and measuring its values, what do we find it to yield:

First, biology *as a body of information:*

(*a*) It informs one as to the nature of living substance.

The whole animal is interesting, its behavior, its distribution, its parts, head, body, legs, wings, muscles, brain, nerves, digestive organs, its organs for eliminating waste, its respiratory apparatus, its reproductive organs, its responses to light, to heat, to touch, to electricity, to chemical solutions, its mental reactions—each of the more than 500,000 species of animals furnishes its own characteristic data in this connection, though all agree in many elementary regards.

Still, living matter in its bulk form is vaguely, perhaps one may say ponderously, attractive. The more intimate feeling which one has for it when he sees the behavior of the different components of one fiftieth of a cubic mm. of living protoplasmic liquid in a microscopic plant or animal cell, belongs to a different order of emotions, and is sufficient to furnish stimulus for a thoughtful person for the remainder of his life. The pronouncement of Pliny, "Natura nusquam magis est tota quam in minimis," is a mere statement of the truth. The degree of certainty which one feels as to this fact is a measure of the size of his world, and thus of his life.

(*b*) Familiarity with "this world in which we live" is again enough excuse for one's study of biology, and a sufficient *raison d'être* for the teacher of it. Man is only a moderately successful example of a high-grade animal; others are more adequate in every way save in mentality, and his supe-

riority in this regard is only one of degree rather than of kind. It is a most wholesome and helpful reflection that we men are but a part of a greater total of things equally alive and all with the same problems to meet in connection with existence. If the recent findings of our oriental co-worker, Professor Bose, may be taken literally, all flesh is more nearly as grass than we have supposed; or rather, all grass is more nearly as flesh.

At least a speaking acquaintance with the multitude of nearly related existences among the animals and plants, as well as with the inanimate of the earth, should well be one of the sources of our joys as well as of our philosophy and religion. It will do us no harm to reach the point where our touch with living matter will be so real to us and our sense of man's oneness with nature so alert that we may share the curiosity of Mrs. Gilman when she says:

I wonder if they like it—being trees?
I suppose they do—
It must feel good to have the ground so flat,
And feel yourself stand right straight up like that.

And later,

I guess they like to stand still in the sun
And just breathe out and in, and feel the cool sap run.

Let us hope that we may be able to make our students feel at home in the midst of their many kin, and being at home with nature, "hold communion with her visible forms."

(*c*) Knowledge of ourselves, a reasonable and correct appreciation, is of the greatest practical significance, as is so often pointed out, and in more masterly manner than I may presume to effect. I would even go so far as to say that a well planned and presented course in any biological science, especially if it be physiology, will make unnecessary and superfluous, to a very large degree, the present loud proclamations of the principles of hygiene. Adequately understood by the teacher, a thorough course in physiology, human or comparative, well illustrated with laboratory or class-room experiments, needs but to be supplemented by man's practical common sense, in order that his physical self may be given hygienic treatment. Sanitation, precautions as to disease, temperance in all matters, *e. g.*, in sleep allowance, habits of eating and drinking, ventilation, exercise, etc., follow as natural self-imposed reactions if correct physiological premises are given. For a person to see a thing, without being told and having it rubbed and scolded into him, is what is meant by conversion; to have to remember and do things by rule without reason is not being "a little lower than the angels," but rather a very little better than the beasts.

I need not enlarge upon this thesis of biological study as a method of self-discovery and interpretation, physically, mentally, and to quite a degree, even morally.

Again, (*d*) the way of biological study is the only way in which one can come to an appreciation of what is involved in the modern gospel of eugenics. Just so surely as the present and coming generations are shown, not by argument, but through their own observation of plants and animals, that there is such a thing as heredity, and that we are gradually getting to know its laws—so that we can even predict with almost mathematical certainty concerning the results of given matings among animals and plants—just so surely will it be possible and increasingly easy to lay plans for an earnest, intelligent, persistent, and finally effective campaign for the physical betterment, at least, of the human race. Those who believe that superior mentality may not be hurried into society in this manner will yet allow that a sound body is no impediment to a sound mind, but is

indeed often a convenience to it, if not correlated with it.

Personally, I believe that looked at in its long future perspective, there is no more cogent reason for the teaching of biological facts than to thereby secure in the oncoming populace an intelligent frame of mind, by virtue of which it will be able to take a quiet, reasonable attitude toward the eugenics movement—a movement which needs but the assemblage of more data (and such are being rapidly secured), which in turn will control public opinion. Thus there will be set in motion this unprecedentedly sane and vital program for the salvation and elevation of human kind. We may not teach the program itself to secondary school students—they might not correctly grasp the proportions or significance of the movement; but our general courses in botany and zoology would be felt to have a most important bearing on the matter, and thus be seen to serve a hidden but undoubted and magnificent end.

(*e*) The more commonly mentioned values in biological study we will not dwell upon; its fundamental importance as a preparation for such professions as medicine, surgery and bacteriology both as applied in diagnosis laboratories of state and municipal boards of health, and in experiment stations dealing with plant infections as well as animal; essential is it too to all really trained nurses, to promoters of public health and all movements for the conservation of life, both plant and animal, no matter by what name they are known. Thus much for the advantage of merely being informed in biology.

Secondly, biological study *as a method of thinking:*

All sciences carry with them, presumably, the scientific method by which a student is led to see and feel things for himself; not necessarily to discredit others, but depending upon his immediate contact with the sources of facts, he no longer prefers second-hand information from books, but rather comes to a point where more and more he feels that "seeing is believing."

Inductive and deductive reasoning are used more and more unconsciously, with no boast of the process; logical sequence is necessary to almost a mathematical degree, and habits of precision are one of the greatest disciplinary values of the study.

Some of our friends in chemistry and physics may style themselves teachers of the exact sciences, implying, if not saying, that biological sciences do not cultivate or permit such a degree of precision in method or thought. I do not mean that biologists do not have the cordial support and hearty confidence of their fellow scientists, but rather that there is sometimes an inclination, due to unfamiliarity with the facts, to draw certain contrasts, based on this question of discipline in procedure between the biological and the physical sciences. It is this point only upon which I care at this time to dwell, that we may not allow biological work to be unjustly discounted. The general laws of cause and effect are just as prevalent here as elsewhere, and their relation just as intimate. For example, it is perfectly possible to measure the precise amount of carbon dioxide given off by a gram of muscle in making a single contraction in a known quantity of atmosphere at a known temperature. We measure the fractional part of a second required for a nerve stimulus of known strength to travel over a nerve of known millimeters in length at known temperature, etc. We determine the precise degree to which the body utilizes the energy in a piece of cheese or banana as compared with its burning in a bomb calorimeter; we can measure the metabolic products of a single nerve fiber during the passage of an im-

pulse; we can give in figures the amount of carbon dioxide produced by a single microscopic cell expending the energy necessary for a single division.

The subject is large; we have no time to handle it in detail, for it would involve all the procedure and technic of physics and chemistry. We could, if we wished, make our students watch a high sensitivity balance all the afternoon, and thus ascertain the exact weight of water given off by a square centimeter of surface of a leaf at a given temperature. We do not often do it for obvious reasons. What I wish to say is simply that there is, in biological study, a field for training in as accurate observation and the methods for securing as irrefutable results as is possible in any other science.

But after all, I conceive that our third requirement of a study, as expressed near the beginning of this paper, is the most crucial diagnostic test of its value, viz.: What does the subject, when really grasped and understood, contribute to a person's philosophical outlook? Quite aside from its mere informational and economic worth, its contribution to saneness and correctness in habits of thought, what does the subject offer which will increase the richness and resources of the inner life of a man or woman? What does it offer which is ballast, making for steadiness and poise in life—is it food for the soul?

In asking such a question and in answering it, one must avoid all emotional and sentimental eccentricities. At the Christmas meeting of the American Society of Naturalists held in Philadelphia, Professor Conklin, speaking of the value of zoology to society, included much when he contended that "biological study has emancipated man from bondage to superstitions."[2] The marvel of birth, the wonder of life, and the mystery of death are all normal and natural, each event and each process being the only result which could follow its preceding causes. The amusing notions taught by the believers in spontaneous generation, the doctrine of the diabolical origin of diseases, the miasms of the swamps, the pathetic beliefs in the supernatural offices of certain blocks of wood, of lodestones, of certain river fauna, and even golden calves —these and hundreds of their fellow ideas are consigned forever to limbo; and man, becoming familiar with the truth, finds that that truth is making him free.

A single contribution of biological study, the doctrine of evolution (and it can not be really appreciated without biological study), has revolutionized the thought of the world. Yet, acquired characteristics not being inherited, it is the great privilege of the teachers of this science to lead their pupils straightly and adequately to and into this conception. By it the past, present and future in literature, art and life, are all interrelated; and man, as Professor Conklin aptly said, is released from the tremendous weight of thinking the universe a homocentric aggregate, himself responsible for its dignity and its consummation. He now sees, rather, that progress was being made before his advent; that he is but an infinitesimal unit in the midst of an eternal development, extending through eternal time, as a component in which, however, he may and should play a lofty, intelligent rôle.

Incidentally, the study of biology, especially as applied to evolution and heredity, is almost if not quite vital to one who stands in the modern pulpit, instructing those who pay him for doing some of their philosophical thinking.

If biological study leads to anything, it will, when adequately followed, produce nothing less than a humble, reverential spirit. I believe we can defy any one to

[2] *Science*, Vol. XLI., No. 1053, 1915.

give himself to thoughtful study for even a single half-year of embryology, of comparative physiology, or even to read such classics as Brooks' "Foundations of Zoology," or the single address of Professor Jennings at the Naturalists' dinner in 1911, on "Heredity and Personality"[2] without feeling that his inner self is enriched, enlarged, and in the truest sense made religious.

The egotist and braggart can not exist in the same corpus with a biologist. True it is, there are conceited, haughty teachers and students of biology; but even though they are, some of them, forty to seventy years of age, they have never been on really talking terms with nature; they are little more than hired venders of her material wares.

I believe, then, that the greatest contribution of biology has been secured by those who with Tagore can say:

When I bring to you colored toys, my child, I understand why there is such a play of colors on the clouds, on water, and why flowers are painted in tints—when I give colored toys to you, my child.

When I sing to make you dance, I truly know why there is music in leaves, and why waves send their chorus of voices to the heart of the listening earth—when I sing to make you dance.

When I bring sweet things to your greedy hands, I know why there is honey in the cup of the flower, and why fruits are secretly filled with sweet juice—when I bring sweet things to your greedy hands.

When I kiss your face to make you smile, my darling, I surely understand what the pleasure is that streams from the sky in morning light, and what delight that is which the summer breeze brings to my body—when I kiss you to make you smile.

That student of life has also entered into the heart of the subject who can feel with Walt Whitman,

I believe a leaf of grass is no less than the journey-work of the stars,
And the pismire is equally perfect, and a grain of sand, and the egg of the wren:
And the tree-toad is a chef d'ouvre for the highest;
And the running blackberry would adorn the parlors of heaven;
And the narrowest hinge in my hand puts to scorn all machinery;
And the cow crunching with depressed head surpasses any statue;
And a mouse is miracle enough to stagger sextillions of infidels.

[2] *Science*, Vol. XXXIV., No. 887, 1911.

ROBERT A. BUDINGTON
OBERLIN COLLEGE

THE PROBLEM OF THE FEEBLE-MINDED IN ITS EDUCATIONAL AND SOCIAL BEARINGS[1]

FEEBLE-MINDEDNESS is a permanent condition of mental feebleness, and not an active disease process or a remediable malady. Consequently the problem of feeble-mindedness is fundamentally educational and social. And since the schools are but the instrument of society, constituted to do its bidding, the interests of the schools and of society in the feeble-minded are identical. This is my excuse for presenting the following brief before this council of "54 varieties" of women's clubs.

There are three basic phases of the problem of the feeble-minded to which I invite your attention.

The first is the obligation of society to identify and register as early as possible all feeble-minded children born into the state. Society has not yet assumed this duty in even a measurably satisfactory manner, largely because of the failure of society to appreciate the grave social menace of the feeble-minded class. There is probably no other class of mentally abnormal individuals who constitute a more serious potential menace to our social well-being and to our racial integrity than the feeble-minded, for there is no abnormal mental or physical condition which more frequently

[1] An address delivered, in substance, before the Woman's Council of St. Louis, April 1, 1915.

lies at the very taproots of our numerous social ills than feeble-mindedness. It is a prolific source of poverty, destitution, all kinds of crime against property and persons, alcoholism, social immorality, illegitimacy, and of prolific and degenerate progeny. There is no more important problem in present-day constructive social economics than the development of a state-wide and nation-wide policy for the compulsory official identification and registration of feeble-minded children.

In order to achieve this result it is necessary to establish clinics or clearing houses where the feeble-minded may be diagnosed and registered. These clinics must be manned by persons who are trained and experienced experts in the subject of feeble-mindedness. While the clinics should provide for the physical and hereditary examinations of the suspected cases, and of their social environment, their central function must be the direct testing of mentality, particularly the stage of development of the intelligence, for there is no direct examination other than psychological of feeble-mindedness. How such clinics should be supported, controlled, administered or affiliated are questions which have not yet been finally answered. In New York City a clearing house for mental defectives is supported by the Department of Public Charities. In Chicago three clinics are supported by the city (one in the public schools, one in the courts, and one in the House of Correction), one by the University of Chicago, and one (in the Juvenile Court) by the county. The state of Ohio has established a state clinic under the jurisdiction of the board of control of the state institutions for the criminal and defective classes. In St. Louis the city schools are supporting a clinic. Elsewhere clinics are supported unofficially by philanthropic organizations and higher institutions of learning. I rather incline to the view that the most satisfactory plan is the establishment of public clinics in connection with the state department of education and the large city school systems,[2] because of the fact that all children who live long enough eventually become charges of the public schools (aside from those who enroll in parochial or private schools), and because of the fact that the second fundamental obligation of the state toward the feeble-minded can only be discharged by the schools, or by institutions which should be organized and conducted as schools.

This obligation is the proper educational care and training of feeble-minded children. The adequafe discharge of this obligation involves segregating the feeble-minded in special classes as early as they can be indubitably diagnosed[3] and provid-

[2] My only fear is that the public and state schools, because of their low salary schedules, will not be able to command the services of qualified experts. Too many of the schools at the present time are satisfied to leave this important and difficult work to amateurs—Binet testers and inspectors of hygiene who have not specialized in the field. The courts, hospitals, state institutions for defectives, or public departments of charities or correction would probably more adequately compensate an expert in this field than would the public schools. The head of a clinic on subnormal children should command as high a salary as the superintendent of a state hospital, the head of a department of public charities, or the judge of a court.

[3] Probably no one who possesses adequate practical experience in the difficult task of closely differentiating between feeble-minded and backward children in a public school system would countenance the oft repeated statement that the feeble-minded child should be segregated in a special class at the very beginning of his school career, for there are thousands of feeble-minded children who can not thus early be diagnosed with any degree of certainty. In fact, the diagnosis of the high grade cases is one of the most difficult problems in the whole range of physical and mental diagnosis, and should never be entrusted to the Binet tester, teacher or regular medical practitioner.

ing for them the type of training which will maximally develop those powers and aptitudes which they possess and which will maximally equip them for earning their livelihood. There is apparently a substantial consensus of opinion among authorities on the feeble-minded that it is folly to provide the same curriculum of studies for them as for normal children; on the mistaken supposition that the proper aims to be striven for in the training of the feeble-minded are to restore them to mental normality and to a place in the regular grades, for it is quite certain that these aims can never be realized if the cases have been correctly diagnosed. And yet we find that many of the special classes throughout the country still provide a pabulum of literary work which is suitable for normal and retarded children, but which has little value for feeble-minded children, because at most it gives them merely a thin coat of literary veneer which, indeed, often serves to cover up their mental deficiency but which does not develop in them those elements of skill which they must possess in order to support themselves or contribute to their support. Because of the high cost of maintaining special classes society very properly demands that no time, effort or money should be spent on lines of training for feeble-minded children which do not measurably add to their socio-industrial efficiency or productive skill, or which do not tend to render them more happy and contented in their restricted world of opportunity.

It is the function of the schools and institutions, therefore, not only to instruct or train the feeble-minded, but also to investigate them with scientific thoroughness, so that we may learn to know definitely what lines of work to eliminate, because they largely represent wasted effort, and what lines of work to develop because they yield the largest practical returns. Many students, as I have intimated, believe that we can answer these questions with scientific certainty even now, and yet I venture to say that the question still invites fruitful scientific inquiry.

One of our chief drawbacks in attempting to solve the curriculum question for the feeble-minded has been the lack of periodical work exhibits, or of careful, reliable, worth-while individual pedagogical records of the work in which different grades of feeble-minded children in the special schools have succeeded or failed after years of tuition. Even when such individual reports have been very carefully and elaborately made out year after year, they have frequently been valueless because of the lack of a reliable, scientific diagnosis of the grade and type of the cases covered by the reports. It is to be hoped that, with the new attitude which the public is beginning to assume toward the schools as institutions which are designed both for the education of children as well as the scientific study of child life, this defect will gradually be overcome.

The third obligation of society is the provision of continuous oversight and supervision over the feeble-minded. The unfortunate necessity for continuous after-care arises from the fact that, although we can develop sufficient skill in the higher grades of the feeble-minded to enable them to earn their own livelihood under favorable conditions, we are less successful in the attempts to endow them with that degree of prudence and foresight—that indispensable common sense—which will enable them wisely to take care of their own interests, to protect themselves from the more intelligent and vicious designers and imposters who prey upon the feebly gifted and use them as their cat's-paws to do their bidding, and to resist the alluring temptations toward

criminalistic careers and toward the assumption of marital obligations for which they are not fitted, either from the standpoint of social or industrial competency or of capacity for healthy procreation.

It is probably true that all feeble-minded persons who do not reside in good, responsible homes which can guarantee them adequate protective oversight are in urgent need of the sustaining services of after-care committees, associations or organizations. The city-, county- and state-supported institutions and colonies are rendering precisely this kind of service, but unfortunately they reach only a small proportion of the total number of feeble-minded persons. The vast majority are at large in society; and of these probably the larger number do not receive adequate supervision and assistance at home, and stand in need of the after-care ministrations of either public or philanthropic welfare organizations. We are making measurably satisfactory progress in the United States in the work of training the feeble-minded, both in state and city schools, and particularly since the public schools assumed this function in the early nineties, but we have not even made a beginning in organizing after-care service for the mental defectives who leave our schools to go to work in society. In this phase of preventive social ministration we are lagging considerably behind England, Germany and Switzerland, where a good deal of effective follow-up work has been carried on for many years, not only for the purpose of rendering practical assistance to the individuals concerned but for the purpose of carefully studying the industrial and social competency of the feeble-minded graduates of the schools, in order to determine by accurate statistical data the percentage who are able to support themselves, or who are able to contribute to their support and the number who become delinquent or criminalistic.

Thus, to cite only a few instances: England has a "Central After-care Committee of the British National Association for the Feeble-minded." This committee had sixteen local branches in 1909. One of the most active, as well as one of the oldest local committees (organized in 1901, now with fifty voluntary workers) is the "Special Schools After-care Sub-committee" of the "Birmingham Education Committee." The members of this committee visit the homes of the mentally defective children, they offer parents and children valuable advice, they assist the children to find adaptable employment, they keep a record of their earnings, of their regularity of employment, of their ability to hold positions, to take care of themselves socially, financially, and morally, and of their police history. One of the most valuable services of this committee are the studies made of the industrial competency of the feeble-minded children from the Birmingham special schools. The following tabulation gives the employment data for 1,071 special school pupils from 1902 to 1912:

Year	No. Doing Remunerative Work	Percentage Earning Wages	Average Weekly Wage		Percentage in workhouses and Other Institutions
			s.	d.	
1902	16		7	1	
1903	26	31%	6	1	2%
1904	19	18	7	2	6
1905	28	19	6	7	12
1906	47	16	6	6	12
1907	61	17	6	1	14
1908	97	18	7	0	12
1909	114	17	6	11	17
1910	173	24	7	3	15
1911	272	32	7	1	20
1912	292	32	8	6	18

The following is the record of the 1,071 pupils during the last year of the tabulation: 292 (of whom 248 varied from fourteen to twenty-one years of age) were

doing "remunerative work" at an average weekly wage of $2.24 for boys and $1.54 for girls. One hundred pupils were with parents or relatives at home, nearly all of them doing no paid work; forty had been dismissed from the special classes as incapable; 112 had been transferred to the ordinary schools, the majority of these, evidently, because they had proved to be only backward; 19 had left for other schools; 29 had been placed in residential schools for the feeble-minded, and 100 in other institutions; 58 were in workhouses; 43 were dead; and 268 had been lost sight of. The vast majority of the feeble-minded thus remained in society doing no work at all, or doing poorly paid work, or merely helping in the home. The majority only retained situations for a short time, many not longer than a month. Many "have varied spells of work with much longer intervals of idleness, such as one, two or three years."

Many deteriorate rapidly when removed from the discipline and control of the special school. Some take to drink, others lead immoral lives, and many become unpunctual, lazy, dirty, and develop ungovernable tempers. Some suffer at the hands of their fellow workmen; others victimize their own people at home.

Similar studies in Leeds showed that 45 per cent. were engaged in "good, promising or fair employment," while in Liverpool, where the supervision was said to be inadequate, only 28 per cent. were employed. The combined statistics from nine cities in England showed that only 22 per cent. of the pupils who were formerly in special schools were at work, while 6.8 per cent. were at work irregularly.

The industrial status of the feeble-minded public school graduates in Germany is apparently more satisfactory. Thus in an investigation of the pupils who had attended ninety auxiliary classes in Berlin it was found that from 70 to 75 per cent. were able to carry a trade, while from 25 to 30 per cent. had died, or were kept at home, or had been committed to an institution. In another Berlin study it was found that only 22 per cent. of the pupils had been sent to an asylum or were kept at home, while 11 per cent. had been apprenticed and 62 per cent. were working, but in poorly paid occupations. Seventy-three per cent. were reported as more or less useful, but whether they were actually earning their subsistence is not revealed. These statistics are not very satisfactory, because no data are given (in the report at hand) of the average earning capacity of the children. However, the claim has been made that from 70 to 80 per cent. of the pupils from the German auxiliary schools are able to make a living. Assuming that this estimate is well founded, what is the explanation of the higher industrial competency of the mentally deficient in Germany than in England? It may be due to the fact that higher grade pupils are admitted into the German auxiliary classes than into the English special schools, since the English education act expressly forbids the admission of backward pupils into the special classes, or to the fact that industrial competition is (or was) less keen in Germany than in England, or to the fact that the Germans supply a more practical type of training for the feeble-minded. It is undoubtedly due in part to the efficient work of the German After-care Societies which exist in a considerable number of the cities. These societies appoint a guardian for each child, whose duty it is, in conjunction with the parents, teachers and school officers, to protect the child from exploitation, to assist him in the choice of an occupation which fits his capacity, to prevent frequent changes of occupation, and to secure for him a reliable master-of-trade. The duty of the master is to provide an efficient trade training to the appren-

tices in his charge. He is, in effect, conducting a continuation school in his particular craft for the feeble-minded entrusted to his care. For the faithful performance of this service he is given a premium by the After-Care Society. In Saxony a bonus in the sum of 150 M. is given by the Minister of the Interior. In Switzerland a similar system exists, supported by a special fund.

So far as my information goes, we have in this country, unfortunately, no after-care committees or organizations and no organized after-care work for feeble-minded children who remain in society at work, and only two meager studies of the industrial competency of the children leaving our special schools. A study, made by the Public Education Association of New York, of 50 ungraded pupils, ranging from ten to twenty years of age, from the public schools of that city showed that at the time only 4 per cent. were apparently able to hold permanent positions, 10 per cent. had worked steadily for a few weeks at an average weekly wage of $3.50, 24 per cent. had worked a "few odd days," a "few" were assisting with household duties at home, while the majority were regarded as incompetent. A study by the University of Chicago Settlement of 10 pupils at an average age of fifteen, who had left one sub-normal center after having received their working papers, showed that the average weekly wage was only $5.73, while three were "unfit for any responsible position."[4]

[4] Seguin claims that more than 30 per cent. of "idiots" can be taught to conform to moral and social law and can be trained to do the work of one third of a man; more than 40 per cent. can be brought to comprehend moral and social abstractions and to do the work of two thirds of a man, while from 25 to 30 per cent. can be brought near the normal standard of manhood and womanhood. This estimate is too optimistic. Binet and Simon concluded, from a study of the available records of the feeble-minded girls in the school at the Salpêtriere and of the boys in the school at the Bicêtre in Paris, that only 20 per cent. of the girls had been improved from their training and only 12 per cent. had acquired enough skill to work at a trade, while only from 3 to 4 per cent. of the boys had improved (number employed not known). The authors bemoan the fact that these figures are little better than conjectures, owing to their inability to get accurate data on the improvement these children had made in school or on their social and industrial careers after leaving school. The industrial competency of the feeble-minded varies, of course, with their degree of defect and with the intensity of the industrial competition, and must be studied in the light of these two factors.

The above rather discouraging facts support the position which I have for long taken, that the public schools' duty toward the feeble-minded is to identify them, segregate them in special schools, and then provide them with the type of training which will directly and maximally equip them for practical, remunerative service, in state or municipal colonies. But I present these facts on this occasion for a different purpose—namely for the sake of making a plea for the institution of adequate follow-up work for the feeble-minded pupils who leave our special schools. Our efforts in behalf of the large army of these children who must go to work will be largely negatived unless this is done. In order to perform this service we need the assistance of social-industrial advisers or field agents, working under or in conjunction with the psycho-educational clinic, whose duties should comprise:

1. The making of vocational surveys of employments available in the community which fit the vocational capacities of feeble-minded children but which, at the same time, are not surrounded by social conditions which impose too great a strain on the weak moral natures of the feeble-minded.

2. The placement of children in positions suited to their limitations, and rendering them such assistance and encouragement as will tend to keep them permanently em-

ployed. It is folly to assist feeble-minded children to obtain positions above their level of functioning. The almost inevitable result is discouragement, industrial breakdown and loss of position.

3. Advising with employers for the purpose of explaining the child's limitations, so that work fitting his level of functioning may be assigned him, and so that he may receive more lenient and sympathic treatment.

4. Protecting the children, so far as possible, from moral and economic exploitation, and safeguarding them from criminalistic careers when the parents fail adequately so to do.

5. Advising the parents concerning measures which it is necessary to take in order to safeguard the child's future social and economic welfare (which frequently means urging the need of colonization).

6. The gathering of reliable data on the economic and social after-careers of the children who leave our special schools. These data should include records of the children's earning capacity, relative amount of time spent in employment and in non-employment, the kind of position in which they have and in which they have not succeeded, the ability to handle their financial affairs, and their records of delinquency or criminality. We must gather reliable data of this character, so that in future the schools may more effectively organize their efforts in behalf of the feeble-minded, and so that society may more wisely deal with the perplexing problems which are due to the fact that many of its members must always remain children in mind although having the bodies, instincts and passions of adults.

Theoretically and practically I believe that it is the duty of the public schools to provide this service. But unfortunately the officials of the public schools who see the necessity for this essential service usually can not secure the necessary appropriations, and so their efforts toward the prevention of social and industrial wreckage are rendered nugatory. Let me therefore invite the attention of this organization of allied women's clubs, as well as other organizations interested in public uplift, to the large opportunity for fruitful cooperative work with the public schools in behalf of subnormal children. The situation calls for a two-fold service: first, the gathering of reliable data on an extensive scale of the social, moral and industrial after-school histories of the pupils; and, second, assisting, guiding and protecting the children in their efforts to make a living and to conform to the social, moral and legal standards of civilized society.

J. E. WALLACE WALLIN
PSYCHO-EDUCATIONAL CLINIC,
ST. LOUIS PUBLIC SCHOOLS

THE LIBRARY AS THE ENGLISH LABORATORY[1]

How can a thing be that which it is not? We have that sort of paradox here. The usual denotation of the word *library* is a collection of literary material intended for reading, study and reference. If a laboratory is a workshop where investigation is carried on, then is not the library a place where tools may be had for the most exhaustive research, the most delicate literary workmanship?

This usual conception of a library is almost a mistake. It is like looking through the wrong end of an opera glass. It gives us a distant view of an apparently small object. It is a decided and a mistaken limitation of the library field.

The sciences have tools, workrooms, laboratories. The sciences deal with tangible things elaborated by laboratory methods.

[1] Presented before the Kansas Association of Teachers of English, Topeka, November 13, 1914.

In teaching the mother tongue, the most real of intangible things, may we not have tools, methods, research and laboratories? Is not the library the English laboratory?

Yes, and no. If the library is a laboratory for any school subject, it is particularly so for English and history. But thinking of the library in its most helpful power and of the laboratory in its most useful service, I feel that the library is not *the* laboratory for English. It is more helpful than that.

What is the new spirit in English teaching? No one is more competent to answer than James Fleming Hosic, of Chicago. Feel this:

> The English teacher will strive with all the earnestness that in him lies to make his classroom a place of generating power, of expanding capacity, of storing up of resources against the day of need.[2]

Link that with this, also from Mr. Hosic:

> And what are the chief demands which life presses upon us? I answer, (1) a clear head, (2) the power of solving problems, (3) knowledge of self and of human nature, (4) ideals of conduct and strength to cling to them, (5) familiarity with the sources of culture, (6) standards of taste, (7) command of the vernacular. These, then, are the qualities and the capabilities which the English teacher will seek to develop. Nor does any other have a better opportunity.[3]

Truly a high calling; none more potential, none more dependent upon all the others.

Two years ago to-day, from this platform (Kansas Association of Teachers of English) Dr. Wm. P. Trent, of Columbia, spoke to us. A year ago, Dr. C. A. Smith, of Virginia, brought the message. We were urged to utilize the native interest of pupils, to approach problems naturally, and to value the spirit before the letter. The classroom was held up as the English laboratory par excellence. To-day we are to have an inspiring example (Nicholas Vachel Lindsay) of elemental atmosphere in oral English, an example of the motive that insists upon finding art (and that is to say joy, beauty, eternal fitness) in every field and in every life.

Moreover, from this platform, in recent years, we have heard of utilizing Kansas folklore, of journalism as a valued means of constructive expression, of the social or community motive in oral English, of seeking the cooperation of pupils.

All these personalities, all these ideals, all these motives are the new spirit in English teaching. It is alive.

Here, then, is my point: Just as there is a new spirit in English teaching, so is there a new ideal for the library. Just as English is no longer a formal discipline, so is the library no longer a mere collection of reference books. Just as English aims at efficient thinking and effective expression, so the library aims at efficient culture and effective cooperation.

A laboratory is a place where things are worked out. There must be a product, an immediate result. A library is a place where things are worked in. The idea taken in to-day may be years in coming to expression.

To the English classroom, the library has a relation something like this: Your storehouse of material, your source of information, illustration, ideals, is the well-equipped modern library. Your classroom is the laboratory. You and your boys and girls work out the latent power of the library. In turn, your classroom is the source of power for clear thinking and of delight in effective expression which are to be applied by your boys and girls in the laboratory of life.

May we take an example? Here is a class studying the "Idylls of the King." Perhaps Arthur and his knights and the table-

[2] N. E. A. Proceedings, 1913, p. 92.
[3] N. E. A. Proceedings, 1913, p. 92.

round seem rather unreal. Let's go to the library. The librarian and the teacher conferred together yesterday. What have we here for these boys and girls? A lot of perfectly well-meant explanation, appreciation, interpretation, criticism, moral application of Tennyson's immortal poetry? In some libraries, yes. But in this library possessed of the new spirit, no. To-day with these boys and girls we go driving over the well-built roads of Cornwall to Tintagel. We climb the rocks to the ruins of Tintagel's twin castles. We go down to the cave beside the sea—and Merlin will come around the corner there in a minute! Now we are over at Glastonbury, where Arthur and his noble knights gathered around the table. And now we are looking at the table itself, in the castle at Winchester—we don't know how it got here—"but say, fellows, it's the real thing; there's where Arthur sat!" And here is Galahad, blessed knight, in Eton College chapel. Now we are in the church at Innsbruck, where the medieval sculptor's bronze Arthur gazes at us honestly and steadfastly.

This is to-morrow, in the classroom. We call for oral discussion of the Arthurian stories. Is the response indifferent? Is it uninformed? Is there no intention "to ride abroad redressing human wrongs" here and now? Did those words die long ago, or are they living to-day on the fields of France? Is there doubt that "more things are wrought by prayer than this world dreams of"?

But suppose our class is engaged in more prosaic pursuit, exposition and argument. Again teacher and librarian plan together. Librarian knows how to plan for this, just as teacher does. Moreover, be it said, six months ago librarian saw the need coming and prepared for it. This term we are using the library's well-stocked biography section as the basis for a study of the principles of success in life. Here your boy follows his natural interest. The ideal of his boyish choosing becomes the reasoned ideal of a man. He can tell you why Edison succeeded. Your girl tells you why she would like to be like Jane Addams. Moreover, a social motive is found. The class prepares an index of the vocations, and from the library shelves of university and technical school catalogues and vocational pamphlets compiles the educational requirements for entering a given work. Next year, perhaps this class will study and debate the work of the world and the duties of the new citizenship. There we have the new spirit of English teaching again: The content of our study is history, geography, physics, the fine arts, domestic art, mechanics, even geometry. The materials of our study are drawn from the library that understands—facts, pictures, postcards, lantern slides, illustrated editions, graphic charts, maps, pamphlets, periodicals, and the world's best books. The aim is adequate comprehension of any problem, ability to come to reasoned conclusion, power to express that conclusion in any medium, and delight in the whole process.

Please do not misunderstand me. The library with the new ideal shirks none of the former humdrum every-day responsibilities. It means to have all the research material, all the sources, all the authorities, all the standard authors, all the good old books, which its field of service demands. It is willing to be a laboratory if you will. In fact it is anxious to be anything serviceable.

But the new library believes with the new English teacher that impulse caught in the moving may be turned to motive that acts. It believes that motive may be trained, that motive ought to be trained. It

believes that vivid impression is the beginning of adequate expression. It plans accordingly. It wants to cooperate accordingly with all teachers.

Where is this library I have tried to picture? Some of it is in Brooklyn, some in Newark, some in Grand Rapids, some in Buffalo, Cleveland, Madison, Milwaukee. Part of it is in Kansas, at Hutchinson, Wichita, Valley Falls, Emporia, Chapman. When shall we have all of this library in Kansas? When three things have come true: (1) When your library is definitely provided for by annual appropriation; (2) when adequate trained service in your library is regarded as fundamental; (3) when your library is expected to be more than a collection of books.

The library is the English laboratory. Yes, much more. It is the sun parlor. It is the avenue among the trees. It is the mountain top. It is all the world for every man for every time.

Willis H. Kerr

Kansas State Normal School, Emporia

TRUTH. A COMMENCEMENT ADDRESS

If an inhabitant of Mars could visit our planet and listen to the discussions on industrial education, he would be tempted to think that the grand aim and purpose of mundane education might be displayed by putting above the entrance to the schoolhouse, in letters of electric light, the word *Money*. We have schoolmen who hold the almighty dollar so close to their eyes that they see nothing else in God's universe. Branches of study like history they propose to exclude from the curriculum of the modern school because they do not see how such studies can help the boy to solve the problem of earning a livelihood. The great Teacher says that man shall not live by bread alone. Instead of placing the word money above the door of the schoolhouse I would substitute another word of five letters—*Truth*.

Truth is more than knowledge, although the latter is the more comprehensive term. Knowledge may abide in the mind as a mere matter of intellect and exert little or no influence upon life and conduct. Truth always goes deeper than the intellect. It touches the heart out of which are the issues of life. Hence the best teachers of every age and clime have regarded truth as the pearl of great price which should be sought and valued above everything else. Pythagoras cherished so high an estimate of truth that he said if the Deity should make himself visible to man, he would choose light for his body and truth for his soul. In the book of Proverbs we find this admonition: "Buy the truth and sell it not, yea wisdom, instruction and understanding."

Since a proverb is the summing up of the wisdom of the many through the wit of one, it is always helpful to meditate upon the wealth of meaning hidden in proverbs. Does the author of proverbs mean to say that truth can be got in exchange for money? Does he mean to intimate that truth can be inherited as we inherit money? Without doubt the human race is the heir of all the ages in the possession of truth and in its application to the arts and industries. Moreover we often get the benefit of an expert's knowledge of truth by paying for his services. But the expert acquired his mastery of the truth only as the result of painstaking effort and study. And there is no other way by which truth can be acquired and mastered.

The Hebrew unit of value was the shekel. Like our dollar it stood for labor, exertion, effort of some kind by somebody. Money is the measure of the value of the effort which some one has put forth. Many things which are essential to our existence come to us as

a free gift, *e. g.*, the light and heat of the sun, the showers of rain from the clouds, and the pure, fresh air that we breathe. Truth does not come to us in that way. A modern commentator interprets the proverb to mean three things:

1. The truth must be bought—it costs.
2. The truth is worth all it costs.
3. Although the truth is worth so much, it is sometimes sold.

Euclid, whose name is synonymous with geometry, was right when he told his royal pupil: "There is no royal road to geometry." Mathematical truth can be grasped and mastered in one way only—that is, by close and laborious thinking. It can never be acquired by memorizing, nor by coaching, nor by loafing. The acquisition and the mastery of all types of truth involve diligent search and investigation.

Did you ever think of the word laboratory as indicative of what is involved in the quest of truth, yea in all scientific research and investigation? Did you ever see in a doctor's office the picture of Andreas Vesalius, standing beside a dissecting table? Could you help thinking of the persecutions, the exile, the patient labor in hidden and pestilential places which he had to undergo in his career as the founder of the science of anatomy? History is full of the tales of heroic effort and sacrifice which the quest of truth has cost the martyrs of science.

But the truth is worth all it costs. We sometimes say that a man running for office puts himself into the hands of his friends. If you have ever stretched yourself upon the surgeon's table, you have put yourself into the hands of your friends as no politician ever did. And if after going down to the brink of the grave, the surgeon's knife has brought you back to health and strength, you have realized that the scientific truth discovered by Vesalius and others is worth all it cost. Scientific truth has revolutionized the arts, the industries, the warfare of modern times. Science is transforming the conduct of business, the processes of manufacture, the methods of mining, the activities of commerce, the practise of the professions, the education of children.

At this point we get a glimpse of the difference between the elementary school and the high school, between the high school and the university. In the elementary school we must generally be satisfied if the pupil learns the processes and grasps the *how* without mastering the *why*. In the high school he is expected to penetrate beneath the surface and to discern the relations which are scientific. What is science? Science is the knowledge of things in their causes and essential relations. The high school teacher must get the pupils to pass from cause to effect, from reason to consequence, from law to its application. The university professor must go still further. He must train the mind in the habits of thought which lie at the foundation of scientific research and discovery. It is the function of the university not merely to preserve and transmit truth, but to enlarge the boundaries of science, to promote the quest of truth for its own sake and to apply it for the uplift of humanity.

But the strangest thing about the truth still remains to be emphasized. Although truth is worth so much, it is sometimes sold. Judas sold his Lord and Master for thirty pieces of silver. In modern times we often sell the truth for less than that. "Where is that ribbon we were selling at five cents a yard," asked the sales-lady of the floor-walker. "Over on the bargain counter, selling at six cents a yard," was the reply. In that department store they were selling the truth at a cent a yard. Sometimes the truth is sold for a vote, for a smile, for a mere momentary advantage. Here we

should without doubt draw a distinction for the purpose of enlarging and clarifying our vision. Perhaps the distinction can best be made clear by a story which deeply impressed me in my boyhood. An elderly gentleman told me of two friends who had many things in common but on one point they could not agree. One of them was a great student of nature and nature's laws; but his soul never rose from nature up to nature's God. The other was likewise a great student of nature, but his chief delight was in the truth as it is in Jesus. One Christmas he received a present of a wonderful clock. He showed it to his friend who admired its mechanism, whereupon the Biblical student said: "I have not told you the most wonderful thing about that clock. It came into being by chance. It never had a maker." "You do not expect me to believe such nonsense," said the scientist. "And yet you expect me to believe that this universe which is far more wonderful than a clock, never had a Maker or Creator," was the reply.

There are two great realms of truth—one the realm of truth as revealed in nature—the other the domain of truth as found in Revelation. A Latin proverb says that all truth is from God. Hence there can be no contradiction in the two types of truth, not in the essence, only in our comprehension of truth. Both types of truth may be sold by neglect. "What is truth?" exclaimed Pontius Pilate and then turned away in despair without waiting for an answer. The human mind and the human heart often turn away from the source and fountain of truth by reason of prepossessions and preconceived notions. Think of the vagaries of anti-vaccinationists and of the devotees of christian science. At the time of Harvey's death not twenty physicians had accepted his discovery of the circulation of the blood. At the time of Newton's death comparatively few scholars had accepted the theory of gravitation. How many still refuse to accept the truths of the higher criticism or the truths which Darwin brought to light by his patient investigations! However this is not our main trouble to-day. In this age we have almost become the dupes of credulity by reason of the wonderful things which science has achieved. The neglect of truth is not most flagrant in what is known as science but in the domain of ethics and politics. I said at the beginning that truth touches the heart out of which are the issues of life. When truth passes over into speech it becomes veracity or truthfulness. The worst insult you can offer to another is to call him a member of the Ananias Club. The liar knowingly and willingly violates the virtue of veracity. When truth passes over into life, and conduct, it gives us true men and true women.

This brings us to the secret of success in teaching. Only he who lives the truth can teach it with masterly effect. The transformation of knowledge into a harvest of new thought, sentiment and purpose becomes possible under the guidance of the teacher only when the truth has touched his heart, filled his soul and permeated his whole mind and life and conduct. The poet has well said:

> Thou must thyself be true
> If thou the truth wouldst teach.
> Thy soul must o'erflow if thou
> Another's soul wouldst reach.
> It needs the heart's o'erflow
> To give the lips full speech.
>
> Think truly and thy thought
> Shall the world's famine feed.
> Speak truly and every word
> Shall be a fruitful seed.
> Live truly and thy life
> Shall be a noble creed.

NATHAN C. SCHAEFFER
DEPARTMENT OF PUBLIC INSTRUCTION,
HARRISBURG, PA.

EDUCATIONAL EVENTS

THE KANSAS CITY BUREAU OF RESEARCH AND EFFICIENCY

IN June, 1914, the board of directors established a Bureau of Research and Efficiency. George Melcher, formerly a department head in the Springfield State Normal School, and later assistant state superintendent of Missouri, was elected as director. The following statement from the annual report gives the aims and functions of this research bureau.

The purpose of this bureau is to assist in discovering better methods of administering and supervising our schools, and better methods of teaching the various subjects of the curriculum. It is hoped that such plans and methods may be discovered as will secure the best results from the given factors.

The plan throughout will be cooperative. The conclusions reached will be the best composite judgment of all who contribute to the service. It shall be the function of this bureau to bring together the results of efforts at improvements and so tabulate and arrange the data that those interested may know the facts that have been revealed by any investigations that are undertaken and be able to judge in a better way the value of the conclusions reached. A further aim will be to so democratize the school system and so plan the work that the humblest teacher in any grade may contribute the results of her work to the advancement of the system. It is hoped by this means to capitalize for the good of the whole system any improved method that may be worked out by any teacher or principal. The combined judgment of a thousand teachers will always be better than the opinions of a few.

While ill-advised and unorganized experimentation will not be undertaken, much liberty will be allowed in working out problems along safe and conservative lines. It is hoped that the entire body of teachers as members of this bureau may become enthusiastic, open-minded searchers for truth. It is by such methods that progress throughout the whole body of any system is made, and it is hoped that this bureau may so stimulate and correlate this line of work that most beneficial results may follow.

While the above statement describes in a general way the work of this bureau, we might enumerate specific functions as follows:

First: To measure and tabulate the results that are now being secured in our schools. During the first year we hope to do some work in measuring the results in writing and arithmetic and possibly also in spelling and language.

Second: To study the results of the work of similar bureaus in other cities and bring to Kansas City the best conclusions of those bureaus.

Third: To cooperate in the investigation of any problem that may confront the board of education, the superintendents, the supervisors, the principals, the teachers, or the people.

Fourth: To tabulate and analyze all statistical reports.

Fifth: To study methods of reducing waste in the school system.

Sixth: To study with the principals and the teachers plans for reducing elimination of pupils, non-promotion of pupils, and failures of pupils.

Seventh: To cooperate with all the departments of the school system in efforts to increase efficiency.

The rapid expansion of our school system makes it desirable to have some one experienced in such work to study, tabulate and analyze the educational statistics on the school system. Our statistics on school supplies and apparatus are now accurately kept. These material things are only the tools with which the children, the most important factor of a school system, do their work. We do not need to know less about our school equipment, but we do need to know more about our boys and girls in our school system. The superintendents in a large system do not have time to compile and analyze statistics. This work will hereafter be done in the Bureau of Research and Efficiency. It is hoped through cooperative work of this bureau to learn more about the school system, as a whole, and more about each individual pupil and thus more nearly adjust our work to present-day needs.

Nine departments of research and efficiency have been established in the United States as follows: Rochester, N. Y., 1911; Baltimore, Md., 1912; New Orleans, La., 1912; New York City, 1913; Boston, Mass., 1914; Kansas City, Mo., 1914; Detroit, Mich., 1914; Oakland, Calif., 1914; Schenectady, N. Y., 1914.

Several problems are now being studied by this bureau. The director will be glad to counsel with teachers and principals relative to problems that they wish to investigate next year. Some problems can be solved in a few months, but many problems require years of study and observation. The best teachers are constantly searching for better methods of conducting their work. Every

teacher, principal, supervisor and officer in the entire school system is a member of this bureau and each one is invited to cooperate in group work on special problems and also to contribute the result of his own individual studies.

THE CHILD LABOR CERTIFICATE SYSTEM IN CONNECTICUT

The Children's Bureau of the Department of Labor has issued a report on the administration of the child labor certificate system in the State of Connecticut. This is the first of a series of studies to show how the laws to protect working children actually do so in practise. When a legislature has been induced to place a child labor law on its statute books, the public often assumes that its duty is ended. On the contrary, this inquiry assumes that such a law is only a beginning in the task of protecting children from overwork and exploitation. The next and by far the greater task is to see that the law is carried out.

According to the U. S. Census of 1910, over 550,000 of our nation's children from ten to fifteen years old were at work in factories, shops, and other non-agricultural positions. At that age the boys and girls who leave school to go to work do not leave it for a life of luxury. For the most part they go to work in order to add to the family income. By what legal machinery are these children protected?

Child labor laws are designed to protect children at work, and in such laws the employment certificate, or the child's working card, is the key to their enforcement. The working card is the child's identification card. It shows that he is entitled to work, and it furnishes a record of every child at work and therefore subject to the law. For this reason the Children's Bureau is studying the employment certificate systems to learn how far the laws which have been made to protect working children actually do so. To whom does the child apply for his working papers? If the certificate states that he can read and write "simple sentences," how well must he read, how well must he write, and who is to judge what is "simple" sentence? How does he prove that he is of legal age to work? Whose property is the working card? Are working papers given a child regardless of the prospect of employment? If so, what is done to keep a line on those who do and those who do not get work? Can a working card be used to thwart truant officers? Do the working papers issued tally with the children actually at work? These are some of the questions that the Children's Bureau studies are designed to answer.

In Connecticut a child can not go to work until he is fourteen years old, and until sixteen can not work unless he has an employment certificate. No child can get a certificate and stay out of school unless he has a job. If he quits work his employer must notify the State Board of Education, and before he can go to work again permanently he must secure a fresh certificate. The most striking feature of the Connecticut system of issuing working papers is that the State Board of Education controls its enforcement and dovetails the working of the compulsory education law with the child labor law. Practically every step is under the direct supervision of the State Board of Education. Agents of the State Board travel from town to town, issuing working papers, inspecting shops for violations of the certificate law, and visiting in their homes children who have left their jobs.

Studies similar to the one in Connecticut are being undertaken in other states, and it is believed that by discovering the strong and weak features of various systems in use, some standard will be reached of the best methods for protecting children at work. This inquiry is under the direction of Miss Helen L. Sumner, in charge of the Industrial Division of the Children's Bureau.

CIVIC EDUCATION IN ELEMENTARY SCHOOLS

How one community trains its children for the responsibilities of citizenship is described in a bulletin just issued by the U. S. Bureau of Education on "Civic Education in Elementary Schools as Illustrated in Indianapolis."

"The practise in the Indianapolis schools,"

says Arthur W. Dunn, author of the bulletin, "is to help the pupil to understand the nature of his own community life, his dependence upon it, and his responsibility for it; to develop a right attitude toward government as the means by which all members of the community may cooperate for the common interest; and to cultivate habits of right action as a member of the community."

The bulletin emphasizes the fact that "civics is not taught as a separate subject until the eighth grade, but that civic education is a phase of all the work of the school. The aim seems to be to make of education, not a process of instruction in a variety of subjects, but a process of growth, during which the various relations of life are unfolded."

Incidentally it is pointed out that "there is no 'subject' of ethics or moral education in the Indianapolis schools, but the direct moral training afforded by the course here outlined is peculiarly virile. So, also, while there is no attempt to give direct vocation training in the strict sense of this term, nor even any organized form of 'vocational guidance,' nevertheless the fact is always taken into account that the citizen must be a worker and the worker a citizen."

Instruction through the course of study is, however, only a part of the training for citizenship given in these schools. "An understanding of community life and of government," declares Mr. Dunn, "is fruitless without the cultivation of qualities and habits of good citizenship. Instruction and training must go hand in hand. The latter is largely a matter of practise." Pupil participation in school management is a very real thing in Indianapolis, and in some schools it is carried to a high degree of effectiveness. It manifests itself in the method of preparing and conducting recitations; in the care of school property; in protecting the rights of younger children; in maintaining the sanitary conditions of the building and grounds; in beautifying school grounds; in the making of repairs and equipment of "our school"; in fact, in every aspect of the school life.

In Indianapolis pupil participation in the government of the school leads naturally into pupil participation in the larger civic life of the community of which the school itself is a part. Maintaining order on the playground naturally extends to maintaining order on the streets in the vicinity of the school. It is common for committees of older boys to look after the safety of younger children in crossing streets near the school. Solicitude for the cleanliness and beauty of school grounds develops equal solicitude for the cleanliness and beauty of adjoining streets, alleys, and vacant lots. School gardening quickly stimulates home gardening, and whole neighborhoods have been transformed through the influence of the schools.

Whether the children who are now undergoing this training for citizenship will in reality be efficient citizens ten or twenty years hence can not be foretold, according to Mr. Dunn. But he adds: "There is apparently ample evidence that they are better citizens now; and, moreover, that the present civic life of the city is appreciably affected by it. Where immediate results are so apparent and so far-reaching, the effect upon future citizenship should certainly be appreciable."

EDUCATIONAL NOTES AND NEWS

DR. HENRY SUZZALLO, until recently professor of the philosophy of education in Teachers College, Columbia University, entered upon his new work as president of the University of Washington at the beginning of the present month.

PROFESSOR WILL S. MUNROE, of the State Normal School, Montclair, N. J., gave the principal address, at a memorial meeting in honor of John Huss in New York City, on July 3. John Huss, the Bohemian reformer, was burned at the stake on July 6, 1415.

PROFESSOR N. F. DAVIS, of Brown University, has retired from the chair of mathematics after more than forty years of active service.

AFTER six years of service as head of the department of history and principles of education in the New York Training School for Teachers, and ten years of service as principal

of the institution, Dr. Edward N. Jones has retired from service.

Professor Charles L. Simmers has been elected head of the new department of education at the New Hampshire College. He is a graduate of the Iowa State Teachers College and of the University of Iowa. He took graduate work at Iowa and in 1910–11 at the University of Wisconsin, where he also acted as an assistant in the department of education. For the last three years he has been assistant professor of education in the State College of Washington.

Dr. H. W. Reddick, of Columbia University, has been appointed professor and head of the department of mathematics in the Cooper Union, New York City.

Miss Martha Flagg Emerson will be the new librarian at the New Hampshire College succeeding Miss Harriet H. Stanley. Miss Emerson is the daughter of Professor C. F. Emerson, dean emeritus of Dartmouth College, and is now at the head of the University Library at Atlanta, Georgia.

Allan B. Say, professor of Latin in Gallaudet College, Washington, died on July 6 at George Washington University Hospital, following an operation for appendicitis. He was forty-two years old. Professor Say, who was the oldest son of Dr. Edward Allan Say, vice-president of Gallaudet College, was born in Brooklyn, N. Y. He was graduated from Harvard with the class of 1895, and after spending a year teaching at Harvard, was called to Gallaudet College.

President Arthur T. Hadley, of Yale University, made the principal address at the celebration of "New Haven Day" at the Panama-Pacific Exposition on July 14. "Yale Week" was inaugurated on the thirteenth with a banquet of the Yale Alumni Association of North California at which Dr. Hadley was the guest of honor. July 16 was observed as "Yale Day" at the exposition.

Trustees of the Elizabeth McCormick Memorial Fund have been notified that their open-air school exhibit at the Panama-Pacific Exposition has been awarded the grand prize for school hygiene, a medal of honor and a gold badge in education.

The General Education Board, which usually holds its sessions in New York, had last week a three days' conference at Rockland Breakwater, Maine. Chairman Frederick T. Gates, the secretaries and ten other members, including President Emeritus Charles W. Eliot of Harvard and John D. Rockefeller, Jr., were present.

Saturday, August twenty-first, has been set aside by the authorities of the Panama-Pacific Exposition as National Education Association Day. The general arrangements have been made by correspondence with the state directors of the National Education Association, the state superintendent of public instruction, and the presidents of the various state teachers associations. Detailed announcement will appear in the final program, but it is expected that the teachers will meet in their respective state buildings on the exposition grounds at ten o'clock in the morning, or at places to be designated for those coming from states which did not erect independent buildings. Group parties of inspection will be formed under the guidance of the San Francisco teachers, for the purpose of studying exhibits which have a particularly valuable interest to teachers. During the day, there will be a historical pageant prepared by various San Francisco clubs and a reception tendered the members of the association in the California building.

When the University of Oregon opens in the fall it will undergo two "surveys." Dr. S. P. Capen, the government's specialist in higher education, as official representative of the United States Bureau of Education, will be brought to the campus, probably early in October, and will remain until he is sure that he understands every phase of the university's activities. Then he will make a detailed report on its work. The other survey was ordered by the last session of the legislature for the guidance of the next session, and will be conducted by a joint committee of two houses. Its emphasis will probably be financial rather than educational.

THE sum of $500,000 is left to Tufts College by the will of Dr. Fred S. Pearson, *Lusitania* victim, late of Great Barrington, Mass., and London, Eng. Mr. Pearson was a graduate of Tufts in the class of 1883 and a trustee of the institution.

"JOHNSON HALL," the new administration building of the University of Oregon, named by the regents at their last meeting after the first president of the university, is just completed and the various departments and officers who are to occupy it are moving in. Autumn will find the following departments installed in the new quarters: Geology, mathematics, Greek, public speaking and probably one or two other departments of instruction, dean of college of letters and science, dean of women, registrar, business manager, extension department and president of the university. "Guild Hall," the auditorium on the first floor, will be under the charge of the department of public speaking, but will be the usual university meeting place for all conferences, lectures, etc., that do not require the large Villard auditorium.

WORKMEN are now busy on the brick work of the new dormitory for men at the New Hampshire College which is going up so rapidly that at least part of it will be sure to be ready for occupancy when college opens in September. The building has one of the best sites on the campus fronting on the main street of the village.

THE University of Wisconsin, it is reported from Madison, has won against the reactionary forces led by Governor Phillips, the Senate having killed by amendment the central board bill which would have given to the governor control over the university. The present educational system of the state will probably remain unchanged at the adjournment of the legislature, as the governor has asserted he would not sign the bill as amended. The governor's central board bill provided that a commission of fifteen members, appointed by him, should have entire charge over the university and the normal and public school systems of the state, while the amendment provides that although there shall be a central board, it shall have financial jurisdiction only, and that but one of its five members may be selected by the governor, the remainder being chosen by the boards of regents of the normal schools and university, the secretary of state, and the superintendent of public instruction. Making basis for action the results of the so-called Wisconsin survey conducted by Dr. William H. Allen, former head of the bureau of municipal research of New York City, which charged inefficiency in both the teaching and the business management of the institution, the administration party formulated the central board bill which would have placed the University of Wisconsin under the domination of the governor in all phases of its affairs. Denying all the charges but that of an inefficiency in the business administration, the progressive Republican senators proposed the Staudenmeyer amendment, which if it passes the assembly and is signed by the governor, and that is doubtful, might improve the financial administration, but would not impair the educational integrity of the university. This was the measure which was ordered to a third reading.

THE American Social Hygiene Association meets at Berkeley, Cal., August 3–5, when prepared papers and round table discussions on problems of social hygiene will be presented in accordance with the following program:

1. What preparation in social hygiene should be required in the curriculum of normal schools?

2. What motives and sanctions furnish the most effective control of sex conduct: (*a*) In the adolescent boy? (*b*) In the adolescent girl?

3. Borderland questions—are they factors in the social hygiene movement? (*a*) Birth control. (*b*) Personal prophylaxis.

4. The social economic burden of venereal disease.

5. Dangers in the campaign of social hygiene: Which of them are recognized alike by its supporters and its detractors?

6. The extension of hospital social service to venereal disease.

7. The relation between physical recreation and sex problems.

It is stated in the *Electrical World* that more than 250 employees of the Edison Electric Illuminating Company of Detroit are taking advantage of the company's offer to let them attend afternoon courses one day a week at the Cass Technical High School on the company's time. Special courses have been arranged which will be of value to employees in their work for the company. Candidates for this special instruction are named by the foremen and heads of departments, and every effort is made to encourage the men in their studies. Mr. S. C. Mumford, controller of the company, is a member of the Detroit school board and has taken a leading part in arranging the special curriculum, which includes courses in physics, chemistry, general science, accounting, etc. From the accounting department alone sixty employees are attending the once-a-week afternoon courses. At an electrically cooked dinner held at the Delray station of the company on January 19 the high-school faculty and officials of the company conferred together on future plans for the employees' courses.

Beginning in September, 1917, the Washington University Dental School will change its three-year course to a four-year course. This is the result of unanimous action taken at the meeting of the Dental Faculties Association of American Universities held recently in Philadelphia, a meeting at which Dean J. H. Kennerly, representing Washington University, met representatives from the dental faculties of the Universities of Harvard, Pennsylvania, Michigan, Iowa and Minnesota. No specific curriculum was adopted at this time, but each school represented was privileged either to extend the present course over four years of dental instruction, or by adopting a year of preparatory college work embracing certain subjects now taught in the dental curriculum to continue the teaching of the three-year course, thereby gaining more time for the teaching of the purely dental subjects. The action of this body completes the establishment of a four-year dental course which will go into effect in all schools of the United States beginning September, 1917.

DISCUSSION AND CORRESPONDENCE

EDUCATIONAL MACHINERY

The well-worn phrase that this is the age of machinery has a wider meaning than the trite one that the invention of machines has revolutionized industry. The unprejudiced spectator of our social and political life must see in the heralded age of the machine the sinister implication of machine government and political bosses. Even in educational affairs one must be impressed by the tremendous educational organization and the loud clamor for more. We read that the people are spending so-and-so many millions of dollars annually upon education. The metropolitan papers proudly announce the number of public school children in the city schools. New appliances and devices, although not patented, spread through the teaching profession like inventions of new automobiles spread at the will of invested capital and crafty salesmanship. Especially in America the machinery of education is imposing. We are bidden to admire the great institution that reaches from kindergarten through the university, extending the privileges of free education to all. It is a great spectacle. We have, however, been repeatedly warned by our prophets to withhold our admiration in view of the pitifully small *product* of the *great school system*. The warning may or may not be worth our heed. The organization may or may not be out of proportion to the results. The really significant thing about the whole matter seems to be that both the admirer and the critic have apparently been caught by the same fallacy of a figure of speech.

Some wise man has prayed that we might be delivered from the Evil One and from metaphors. This metaphorical conception of education is peculiarly virulent at the present time. Efficiency experts and school survey enthusiasts are anxious that we should have more machinery. Their opponents are just as sure that we already have too much. Which is right? The answer must be in this case as in many similar disputes that both are right and both are wrong. They are both right in detecting a disparity between end and means,

and in their desire to improve the conditions. So far radicals and conservatives usually cooperate. They are both wrong in being misled by a metaphor to misconceive the function of educational machinery.

When we use a figure of speech we are unconsciously led to carry it beyond proper limits. The mind seems to be swept from the idea of an educational *factory* to that of an educational *product*. What could be simpler than to say: the school takes its raw material of boys and girls and produces men and women ready to meet the eventful experiences of life? Yet what could be more subtly deceptive? There is undoubtedly an educational plant with equipment, courses of study, committees, boards of trustees, secretaries and all the rest of the organization that creaks when it moves, and it may fairly be likened to the machinery of industry. The raw material, however, is not boys and girls.

The country grist mill which is not so common now as it was a decade or so ago presents an apt illustration. The grist mill was a place where the farmer took his wheat and corn to be ground and received them back, minus the miller's share, in flour and meal. It was not uncommon for the miller to take more than his share. So long as the farmer was ignorant of that fact the benefit seemed to go to the miller. But when the people with wheat to grind found out that the local miller was taking more than his just share for the grinding, trouble ensued. The miller was using his machinery to grind up farmers. He did not have too much machinery; his machinery was not too good; he was misusing it. It was his business to provide a means of life for farmers; not his business to use farmers as a means of life. Wheat was to be made into flour: not farmers to be made into money. The very impossibility of completely separating these two phases of the miller's duty makes it imperative to distinguish them clearly in thought.

The raw material of the educational mill is knowledge, reflection, idea, purpose. Its duty is to analyze, prepare, distribute. This is the sole function of educational machinery. Yet how often have we found a school organization, curriculum, or method grinding up boys and girls or men and women instead of ideas. The facts almost justify the sensational language of the last sentences. When we reflect upon the popular phrase that *education is for society*, we get a glimpse of the ease with which educational machinery is perverted. The ideal stated is often taken to mean the preparation of boys and girls for social use or "social efficiency." The meaning is clearly one of subordination of the person to the state. One would hardly quarrel with those who hold that the aim of education is to develop social efficiency if they show clearly that society is after all individualized society. The school must know that if it grinds up boys and girls it grinds up society. "Education for citizenship" is another slogan capable of the same misleading implication. Citizenship is for men and women; not men and women for citizenship. Grind up society and citizenship all we please we can not make the concepts too crystal clear for human needs, but when we reverse the process we misconstrue the function of educational organization.

The elective system, as also the one that preceded it in American education, is merely a device or a mechanism. In practise, the elective system may be more subversive of the true function of educational machinery than the older plan of the uniform and fixed requirements. In theory, however, the elective system is distinctly better suited to democratic education. The old system of rigid requirements has all the advantages of a benevolent despotism and all the dangers of tyranny. The new system has the hopes and fears of democracy latent in its application. Our attitude toward the two will depend upon our conception of human personality. If we distrust the ability of the people to rule themselves we are committed to the principle of despotism. We then think of people, young and old, as beings more or less to be pitied; for whom something is to be done. Education is at best a kind of charitable institution and at worst a clever device for increasing the income and power of the powerful. It matters little whether the "powerful" be the benevolent despot or the imaginary creature called "the state." "Education for efficiency" often has too distinct a

flavor of the manufacture of cogs, wheels, and screws to equip the social machine to be recognized as a democratic conception of education. Any rigid system of education is in danger of neglecting the individual.

On the other hand, if we repose great confidence in the ability of the people to rule themselves we are committed to the notion that human beings are ends in themselves. Personality to be made at all, must be self-made, rather than machine made. The elective system, rightly or wrongly, has taken seriously the theory that education is a growth. Pupils are not beings to whom the institution does something. They are persons to whom large opportunity is extended for doing something for themselves.

It is needless to insist that the elective system may defeat its own end and violate the person for the sake of the thing. The sad failure of democracy may be a fact, but it is relatively insignificant beside the other fact that people can learn to govern themselves only by governing themselves. The real aim of a democracy is good government, if possible; but it is always self-government, good or bad. The elective system may mean in some cases foolish election. No effort ought to be spared by the institution to avoid such a mistake short of making the judgment for the student rather than in the student. There is little personal development for him who acts upon the judgment of another. Achievement of another person's ideal is valuable only so far as ideals are communicable and become, through action, the ideals and judgment of the person who acts. It follows that election and guidance so far from being mutually exclusive principles are in fact inseparable and functionally related.

The school does not need more machinery to produce more factory-made citizens, but it does need all the machinery it can get to prepare the experience and wisdom of the race for human consumption and to disseminate human knowledge. In the daily routine of teaching and administration one constantly hears complaint about the exceptional student. It is individuality that puzzles and irritates the school master. As long as every pupil can be crowded into the same mold or form and measured by the same scale (Binet-Simon or otherwise) the teacher can go to sleep with his hand on the machine and not wake up until something unusual happens. In the meantime he can turn out the standard number of pupils with the given grade, draw his salary, and come back to grind up the next grist in the same machine. When the unusual happens he is irritated, he is compelled to think, to experiment, and to wake up. Far be it from me to suggest that individual teachers are guilty of such a conscious attitude. It is the form, the mold, that kills initiative. I have often heard the story of a country miller who practised systematic over-reaching of his just share in grinding the wheat. On one occasion a farmer, of smaller stature, but of greater determination, protested in threatening terms against the injustice. The two men were standing on the outer platform of the mill and the dispute seemed likely to result in violence when the miller hastily opened the door of the mill and called out to the men within: "Come here, two or three of you fellows, let's knock 'im down." When a student makes any trouble with the curriculum the head master calls out to those within: "Come on, let's trim him down until he acts and thinks and looks just like the rest." Thus the deed is done and the teacher is not primarily to blame.

Sometimes teachers get their own fingers pinched in the machinery while operating it and then they wake up in earnest and see a vision that gives new life to teaching and new hope of hand-made, self-made persons as a result of education.

There will not be enough educational machinery until each student is able to find the maximum opportunity within the school to develop his own highest capacity. In college it seems especially desirable that students should be given much more serious individual attention. We need a group of trained men and women to devote their lives to the guidance and personal advice of college students. The machinery already developed—advisory committees of the faculty—has notoriously failed to meet the real need. It has often come to be the arch enemy of individuality and difference.

It usually meets each member of an entering class for two or three minutes at the time of the first registration. During that time it succeeds in vetoing any irregularity in the course proposed by the student and in signing the credentials. Thereafter no advice is sought or needed. The committee has given the student a push into the well-worn grooves of former generations of students and all that is left is to follow the course of least resistance. Little more could be expected of the committee considering the fact that they are teachers of highly diverse and highly specialized subjects. The net result seems usually to be a committee to secure uniformity rather than one to consider individual differences and to direct individual capacities. Instead of helping the student to find himself it frequently tends to obscure individuality and to mechanize judgment. Colleges and universities are taking serious thought in this matter. Of the solutions proposed about the most futile seems to me to be that of a course of lectures for freshmen on educational values. From two hundred to a thousand freshmen are herded together and lectured about their college course for one hour a week for ten weeks. The most hopeful solution proposed seems to be a system of preceptors or monitors. These preceptors should be trained, mature persons with some special knowledge of the history and theory of human education and above all a keen intuitive insight into the minds and hearts of young people. College and university teachers usually are of such a kind, but the conditions of college teaching have compelled them to devote their energy and attention to narrow specialization and to more or less useless book-writing. One of two things ought to be done. Either the number of teachers should be greatly increased and the teachers should get accustomed to think of themselves as teachers of "students" rather than as teachers of "subjects"; or persons should be secured to devote their undivided attention to the problems of individual curriculum making and student advice.

Either of these plans is expensive. But this is one case in which we do need more or at least better-adapted educational machinery—machinery to prevent the machinery we already have from becoming inhuman or from being put to inhuman purposes.

H. G. TOWNSEND

SMITH COLLEGE

QUOTATIONS

THE AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

A MOVEMENT extremely interesting and promising has been inaugurated by a meeting held in Baltimore for the formation of a national association of university professors. This preliminary meeting is to be followed by a larger gathering on January 1 and 2, 1915, in New York, which will probably provide for a permanent organization.

For some years university teachers have realized that specialization in teaching tended more and more to bring them together as specialists, not as university teachers. The physiologists, chemists and philologists meet in groups, but nowhere has there been provided a body under which all university teachers shall come together, not as specialists but as university teachers, to consider the problems and the organization of higher education. Such a body ought to be able to promote in a helpful way the discussion of questions relating to higher education and to the organization and conduct of our universities; such, for example, as the organization of universities into departments, the relations of research to teaching, the awarding of degrees, the methods of appointment and promotion, the relations of faculties and trustees, and numerous other questions directly affecting the ideals and the needs of university teachers and affecting no less the progress and development of the universities themselves.

Such a body bringing together university teachers in all subjects, who meet not as specialists but as men engaged in teaching, ought to exercise an admirable influence in arousing in the minds of a large number of university teachers now absorbed in their own specialties an interest in university questions and a greater readiness to study such questions together. Too many university teachers are content to be absorbed in their own fields of study or research, and give little time or

thought to the larger problems of university life and university progress. Such a body as this ought to furnish the opportunity and the incentive toward such thinking.

Such an organization of university teachers ought to accomplish much in the creation of what one might call professional consciousness. It will help toward a more definite appreciation on the part of teachers themselves, and on the part of the public, of what it means to be a university teacher. The association may well hope in time to grow into an influence comparable in the case of university teachers to that exercised by the American Bar Association for lawyers or by the American Medical Association for physicians. These associations have done much not only to raise the character of those who enter the profession of law or who go into medicine, and to improve professional thinking, but they have also done much to create a professional consciousness. Hitherto there has been little of professional solidarity amongst university teachers. The term professor has had with us a very indefinite meaning. It has been applied unthinkingly to secondary-school teachers, college teachers, university teachers, and to many whose connection with teaching is most remote. In this uncertainty lie certain difficulties which the association will meet, for in the public mind there is as yet no very clear differentiation between the university professor and the secondary-school teacher, just as many of our universities are such in name only.

How far organization can further professional consciousness or professional solidarity is not yet clear. Many other factors enter, such as the relations of the profession to the state, the long development of the social attitude in the body politic. Thus lawyers and physicians have strong professional consciousness. It means to the members of these professions and to the public a fairly definite thing to be either a lawyer or a physician. But while both are quasi-public professions having well-defined relations to the state, their forms of organization are quite different.

The lawyers have what might be called a loose and flexible organization. There are state bar associations which combine in an annual meeting of the national bar association, but the relation between these groups is rather indefinite. Nowhere is there any machinery by which the united influence of the whole profession can be brought to bear either upon a public question or to stimulate political action. The medical profession, on the other hand, is a closely organized body under a program described as "a uniform plan of organization for state and county, making the county society the unit of organization and federating all state organizations into the national association in harmonious cooperation." County membership carries with it membership in the state society, but only delegates have the right to vote. The state societies in turn elect members to the national House of Delegates, the voting strength of which is limited to one hundred and fifty. The House of Delegates thus represents the delegated powers of the members of the American Medical Association. Since the association includes more than half of all the practising physicians in the country, it requires but a glance to see how powerful this organization may become and what a clear line of influence reaches from the House of Delegates to the most remote county society.

The plans of the Association of University Professors have not yet been worked out to the point of detailed organization. Doubtless those who have the matter in charge have in mind a somewhat loose organization like that of the lawyers rather than a highly detailed organization like that of the physicians. So far as the plan has as yet developed, it contemplates nothing further than the formation of a body representative of university teachers, a body in which questions affecting the work of the university and the interests of teachers, the relations of schools and colleges, and similar questions, may be discussed from the standpoint of university teachers, and which may present to university bodies and to the public a statement of such questions from the standpoint of the profession itself. Those who have to do with universities and colleges, whether as trustees, presidents or teachers, will welcome this movement heartily.—Report of the President of the Carnegie Foundation.

EDUCATIONAL RESEARCH AND STATISTICS

STANDARDS AND CURRENT PRACTISES

ARITHMETIC has been a subject for challenge for many years. Educational theorists, educational investigators and men in actual charge of educational affairs have been critical toward the content, method of teaching, time expenditure, gradation and achievement in the subject.

The theorists have been especially forcible in their condemnation of the teaching of many of the more or less obsolete topics, the artificialities of method and the amount of time given over to the subject, etc. Hall condemned especially the amount of time devoted to arithmetic, saying, "Nowhere in the whole curriculum can so much time be saved."

Within recent years there have been a number of special investigations in regard to the arithmetic situation. In 1902 J. M. Rice tested the arithmetical knowledge of more than 6,000 children. In 1908 C. W. Stone tested 6-a grades in 26 cities. These men found wide variations in achievement, time cost, methods of teaching and supervision.

In 1913 Superintendent Van Houten made an investigation of the time distribution, the grade distribution of topics and certain other supervisory phases of arithmetic in 150 American cities. Last year the writer and Dr. Coffman, working for the Committee on Economy of Time, made an investigation of the time expenditure, grade of text-book introduction, emphasis on drill, eliminations and new topics in almost a thousand school systems.

The men in the field, superintendents and teachers, have also given serious consideration to the demands of arithmetic. In 1887 President Francis A. Walker conducted a campaign in the Boston schools which resulted in an order by the school committee that the following subjects be dropped from the course of study; mensuration of the unusual surfaces and solids, compound proportion, compound interest, equation of payments, exchange, metric system, compound partnership, etc. In the report of the Baltimore school commission in 1910 considerable attention was given to arithmetic as to time expenditure and topical emphasis. Superintendent G. M. Wilson, of Connersville, Indiana, in the same year found, after a detailed investigation of 78 courses of study in use elsewhere, that many cities had already made eliminations.

The American committee, Number I. of the International Commission on the Teaching of Mathematics, reported in 1911 on mathematics in the elementary schools. This committee and its subcommittees contained the names of more than forty men and women more or less intimately connected with the problem of mathematics instruction. As a result of their investigation of the subject they said:

> There is a great pressure to simplify the course. This is being done by using smaller numbers in the work in arithmetic; by eliminating topics that are unduly confusing; by giving carefully graded, simple problems; and by cutting down the extent and increasing the emphasis on the part that remains. There is also great pressure to modernize the course. This is being done by eliminating obsolete problem material, topics and processes, and by substituting therefor modern problem material. There is pressure to make the subject possess informational value as well as disciplinary value.

Mr. S. A. Courtis, director of research of the Detroit public schools, has made the most thoroughgoing study which has yet been made of achievements in addition, subtraction, multiplication and division, which are being attained in arithmetic throughout the different grades in a large number of cities. Indeed, the investigation of Mr. Courtis has been carried so far that he has already set up certain tentative standards of expectancy for the fundamentals in the upper grades.

With a view to finding out the extent to which superintendents were interested in these problems, their attitude toward certain proposals for elimination, and changes which had already taken place in the school, the writer and Dr. Coffman, last year, made an investigation which included returns from 867 cities with a population of 4,000 and over and from 114 county superintendents throughout the country. This report was presented before the department of superintendents of the National Educational Association at the Richmond

meeting. It was found that there was great interest in the topic and that a large percentage of the superintendents were alert to the possibilities of effecting economy of time by means of omitting certain material, redirecting emphasis on certain other material, and modifying the time cost. In fact, school superintendents in large numbers are already at work making modifications with a view toward testing the theories or profiting by the facts thus far discovered. In a sense this report might be considered as a clearing house of experience, which will enable one superintendent to know what other superintendents are doing.

This condition suggests the conclusion that the time is favorable for the widespread dissemination of information in regard to policies already adopted in a large number of cities. Educational theorists have projected certain ideals in the light of the whole field of education. Special investigators have presented a body of fact showing the standards or norms in practise, covering a wide enough range of conditions to warrant certain consideration. The superintendents themselves are experimenting in many different ways. While theorists, investigators and superintendents are not perfectly agreed, yet there is sufficient agreement to make it worth while to know the extent of these agreements on the following points:

First, The elimination of topics.
Second, Increased emphasis on topics.
Third, The recitation time distribution.
Fourth, The percentage of drill.
Fifth, Grade of text-book introduction.
Sixth, Grade emphasis on topics.
Seventh, The standards of achievement.

THE ELIMINATION OF TOPICS

In view of the fact that such a large percentage of the superintendents of the country have already either eliminated these topics or are in favor of giving them less attention, it is recommended that an economy of time may be effected by the elimination of the following topics from the elementary course of study: apothecaries' weight, alligation, aliquot parts, annual interest, cube root, cases in percentage, compound and complex fractions of more than two digits, compound proportion, dram, foreign money, folding paper, the long method of greatest common divisor, longitude and time, least common multiple, metric system, progression, quarter in avoirdupois table, reduction of more than two steps, troy weight, true discount, unreal fractions.

Chart one, which is based on the expression of the superintendents in 830 cities last year, shows the percentage of superintendents who favor the elimination of or less attention to these topics. (Taken from the investigation of Jessup and Coffman.)

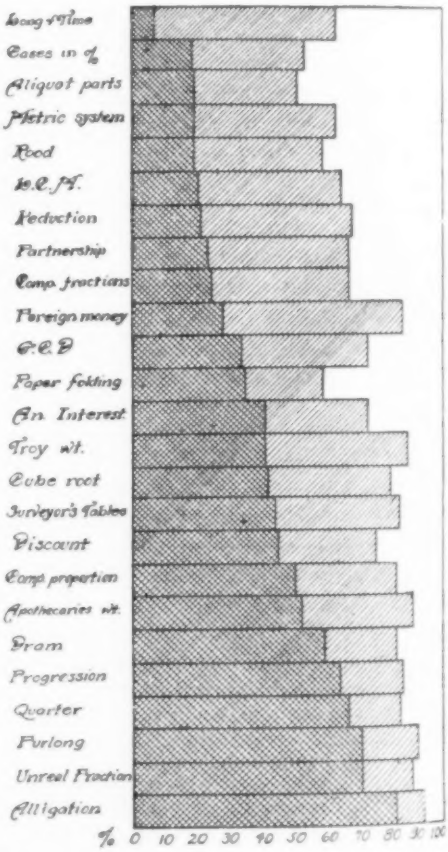

CHART I. Percentage of superintendents who favor "elimination" or "less attention" (830 cities represented).

INCREASED EMPHASIS

There has, no doubt, been a disposition on the part of some educational theorists and some superintendents to minimize the importance to be given to training in the fundamentals in arithmetic—addition, subtraction, multiplication, division of whole numbers and fractions. Certain pedagogical theories have tended to minimize the importance of this phase of the work. These theories, coupled with the fact that arithmetic has received a great amount of time, have resulted in a disposition in certain quarters to neglect the teaching of these fundamentals.

However, it is certainly important to find that the majority of superintendents throughout the country are in favor of emphasizing the fundamentals. It is recommended that these phases of arithmetic be especially emphasized in the intermediate grades to the end that children attain a high standard of ability in these processes by the sixth year.

It is further recommended that the applications of arithmetic to the social and economic conditions of the day be given especial attention. Time saved through the omission of useless material may be wisely devoted to the study of the social, economic and arithmetical issues involved in such facts as saving and loaning money, taxation, public expenditure, banking, borrowing, building and loan associations, investments, bonds and stocks, tax levies, insurance, profits, public utilities, and the like.

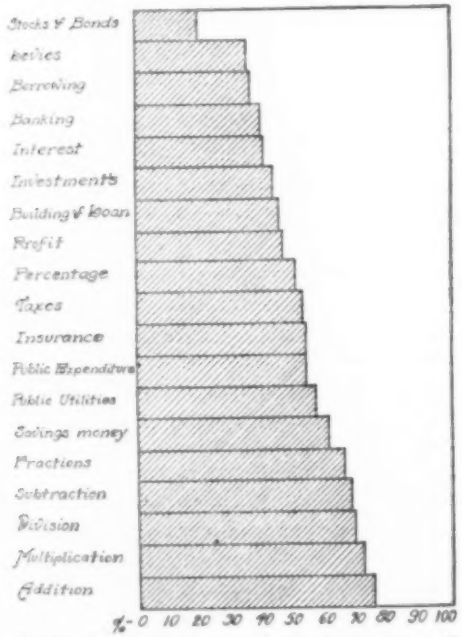

CHART II. Percentage of superintendents who favor giving more attention to each of these topics (830 cities represented).

Chart II. shows the percentage of superintendents who favor giving more attention to each of these topics. (Based on the investigation made by Jessup and Coffman.)

RECITATION TIME

The investigation reported last year brought out the fact that a wide variation existed in the amount of recitation time given over to arithmetic in the various grades. The results of the investigations by Rice, Stone and Courtis, have been such as to indicate that it is easily possible to expend more recitation time on arithmetic than conditions warrant. These men are all of the opinion that there is great danger of wasting time here. In view of these investigations and in view of the fact that half of the superintendents are already giving the proposed time or less per week for recitations in arithmetic in the different grades, it is recommended that the recitation time devoted to arithmetic should not exceed the following limits:

The first grade not to exceed 75 minutes per week.
The second grade not to exceed 100 minutes per week.
The third grade not to exceed 125 minutes per week.
The fourth, fifth, sixth and seventh grades not to exceed 150 minutes per week.
The eighth grade not to exceed 170 minutes per week.

These standards or norms are based on the median recitation time expenditure in 630 cities as reported before this section last year.

Table I. shows the actual distribution of recitation time devoted to arithmetic in these cities. (Based on the investigations of Jessup and Coffman.)

TABLE I

No. Minutes per Week	Grades								
	1st	2d	3d	4th	5th	6th	7th	8th	9th
0	136	31	4	....	....	....	....	24	439
15	7	2	....	....	....	....	....	....	....
20	....	....	....	....	....	....	....	....	....
25	18	1	1	1	1	....	....	....	....
30	10	7	5	1	....	1	1	1	....
35	1	....	....	....	....	....	....	....	....
40	6	4	2	5	2	1	....	1	2
45	....	....	....	....	....	....	....	....	....
50	99	36	3	1	4	4	2	2	....
55	....	....	....	....	....	....	....	....	....
60	27	22	10	5	3	4	5	5	4
65	1	....	....	....	....	....	....	....	....
70	3	3	1	1	1	1	2	1	1
75	103	127	59	12	4	....	....	2	....
80	6	5	10	11	2	3	1	1	1
85	....	....	....	....	....	....	....	....	....
90	5	6	12	3	4	2	3	3	2
95	....	....	....	....	....	....	....	....	....
100	108	83	156	129	71	31	14	10	3
05	....	....	....	....	....	....	....	....	....
10	1	1	6	5	3	....	....	2	1
15	....	....	....	....	....	....	....	....	....
20	6	10	13	13	12	19	22	18	4
125	17	40	90	113	132	109	59	36	5
30	....	3	4	5	6	9	3	....	2
35	....	....	....	....	....	....	....	....	....
40	....	....	2	4	6	1	9	8	2
45	....	....	....	....	....	....	....	....	....
150	53	66	98	129	158	196	210	192	30
55	....	....	....	....	....	....	....	....	....
60	1	2	4	4	6	2	7	8	5
65	....	....	....	....	....	....	....	....	....
70	....	....	2	3	3	1	....	2	....
175	6	8	9	20	31	28	35	37	6
80	2	5	6	3	5	9	16	15	4
85	....	....	....	....	....	....	....	....	....
90	....	1	....	....	....	1	....	....	....
95	....	....	....	....	....	....	....	....	....
200	11	33	54	56	52	72	96	121	60
05	....	....	....	....	....	....	....	....	....
10	....	3	2	....	1	....	2	5	7
15	....	....	....	....	....	....	....	....	....
20	....	1	1	2	1	1	1	2	2
225	4	10	25	19	22	28	31	38	27
30	....	....	....	1	1	2	2	2	....
35	....	....	....	....	....	....	....	....	....
40	....	4	8	8	4	4	4	7	1
45	....	....	....	....	....	....	....	....	....
250	1	9	25	39	51	51	45	34	13
55	....	....	....	....	....	....	....	....	....
60	....	1	....	1	1	2	2	2	....
65	....	....	....	....	....	....	....	....	....
70	....	....	1	1	4	3	2	1	1
275	....	2	2	8	7	9	8	5	1
To 300	....	4	14	24	30	30	38	33	5
To 350	....	....	....	3	2	3	7	8	2
To 450	1	1	1	....	....	....	2	3	....

This table should be read as follows: in the first grade 136 cities allow no time for arithmetic, 7 allow 15 minutes per week, 18 allow 25 minutes per week, and so on down the column. (Extreme cases were verified by supplementary correspondence, so that the variations here indicated are truly descriptive of variations in practise.)

Chart III. shows the median, upper and lower quartiles for this table.

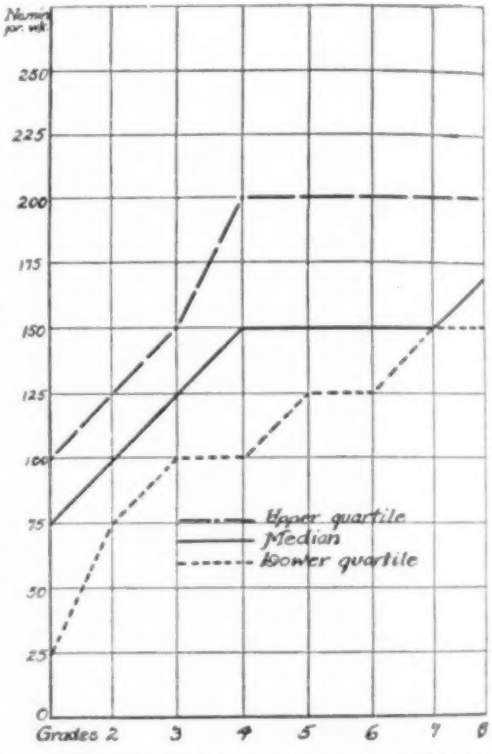

CHART III. Showing median and quartile distribution of time per week given over to recitations.

PERCENTAGE OF TIME GIVEN OVER TO DRILL

There is a clear tendency on the part of the superintendents throughout the country to emphasize the third grade as the grade demanding the highest percentage of time given over to strictly drill work in the recitation. This is in line with the current educational theory of the nature of the mental life of the

child. It is of interest to note in this connection that the school superintendents have either taken the advice of the theorists in this particular or as a result of their own experiences have agreed with the theorists. At any rate it is a fact that at the present time the majority of the superintendents are giving the highest percentage of recitation time to strictly drill work in the third grade. The median percentage of time given to drill work throughout the different grades is as follows:

	Per Cent.
First grade	44
Second grade	50
Third grade	82
Fourth grade	47
Fifth grade	39
Sixth grade	31
Seventh grade	22
Eighth grade	17

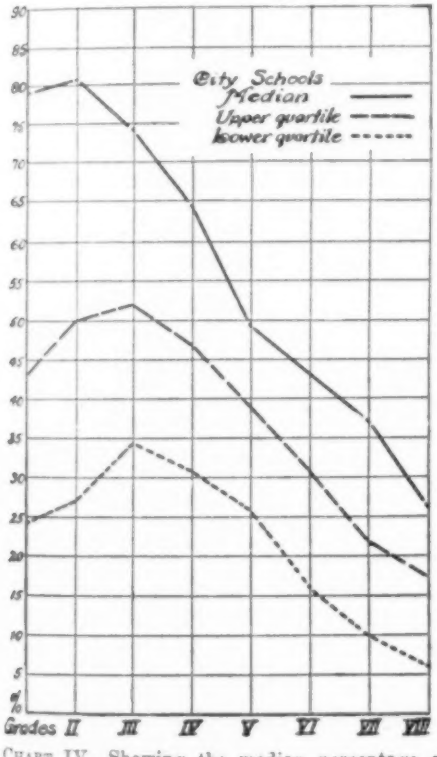

CHART IV. Showing the median percentage of time given over to *strictly* drill work in the recitations in each grade (564 cities).

Chart IV. shows the median and upper and lower quartile percentages of time given over to strictly drill work in the recitations in each grade in 564 cities. The standards or norms in the foregoing are based on the median practise in those cities. (Based on the investigation of Jessup and Coffman.)

GRADE OF TEXT-BOOK INTRODUCTION

In recent years there have been a good many advocates of the plan of postponing the introduction of a text-book in arithmetic until the third grade. Advocates of the policy have been found among experienced superintendents as well as educational theorists. In connection with these recommendations it is of importance to note that of the 764 superintendents reporting last year on this topic it was found that the majority introduced the text-book in the third grade. Clearly the superintendents of this country have adopted the policy of placing a text-book in the child's hands at a relatively late time, as is indicated by the fact that a third of the schools are already postponing the time of introduction of text-books until the fourth grade or later. The superintendent who is in doubt as to the grade in which a text-book should be introduced, may find some satisfaction in knowing the practise of other superintendents. The exact distribution of the varying practises in connection with the grade of introduction of the text-book is indicated in Table II., which follows. (Based on the investigation of Jessup and Coffman.)

TABLE I

Showing Grade in Which an Arithmetic Text Is Introduced (by Geographical Divisions)

	I	II	III	IV	V	VI	Total
North Central	1	18	160	64	22	2	267
North Atlantic	2	9	122	78	15	0	227
Western	0	6	25	17	2	0	50
South Central	0	13	44	17	1	0	75
South Atlantic	0	4	19	5	2	0	30
Counties	2	16	53	28	4	3	106
	5	66	423	209	46	5	754

The meaning of Table II. becomes clear when read as follows: Of the 267 cities reporting from the North Central territory, 1 introduced a text in the first grade; 18, in the second grade; 160, in the third grade; 64, in the fourth grade; 22, in the fifth grade; and 2, in the sixth grade.

GRADE OCCURRENCE OF TOPICS

The investigations of Dr. Payne, the Baltimore Commission, the International Commission and others touched the grade distribution of topics. The most thoroughgoing investigation of this sort, however, was made by Mr. L. H. Van Houten, a graduate student, University of Iowa, now superintendent of schools of Toledo, Iowa, who investigated the distribution of thirty-seven selected topics in arithmetic in 147 different courses of study. These courses represented towns and cities of every size distributed throughout the United States. He found wide variation in this particular. For example, notation was taught in every grade from the first to the eighth, although it was predominantly present in the third grade. Division was taught in every grade from the third to the eighth, but was predominantly present in the third and fourth grades. Fractions were taught in every grade from the first to the eighth, and predominantly present in the fourth and fifth grades. Multiplication tables were taught in every grade from the first to the eighth, but were predominantly present in the sixth grade. Simple interest was taught in every grade from the fourth to the eighth, although it was predominantly present in the seventh grade.

There seems to be less agreement in this particular than we might expect. No doubt many of the differences in practise are due to the text-book variations. Other differences are due to different conceptions of the nature of the mental life of the child and of the nature of the subject-matter. However, it may be said that in the main the four fundamental processes are most frequently taught in the first four grades; fractions, decimals and percentage most frequently in the grades from the fifth to the seventh, with the various applications of arithmetic to the social and economic phases of life predominantly in the seventh and eighth grades.

Mr. Van Houten, following the suggestion of the Baltimore Commission, distributed seven specific topics for grade frequency. From Table III., which follows, it is seen that as far as these 147 cities are concerned the practise prevails of completing the forty-five combinations by the close of the second year; the multiplication tables by the third year; long division by the fourth year; fractions by the fifth year; percentage by the sixth year.

TABLE III

Frequency Table Showing Grade Occurrence of Seven Specified Topics (Van Houten)

Topic	Grade							
	1	2	3	4	5	6	7	8
Forty-five combinations completed	5	122	14	8				
Multiplication tables completed	..	3	87	53				
Long division taught	..	..	26	107	5			
Addition and subtraction of fractions taught	..	..	..	29	108	13		
Multiplication and division of fractions	..	..	..	..	120	18	8	
Decimals taught	..	..	..	..	91	66	3	
Percentage taught	..	..	..	..	9	93	46	2

To be read thus: 5 cities complete the forty-five combination in the first year; 122 in the second year; 14 in the third year; 8 in the fourth year, etc.

While information is lacking which will warrant a final statement in regard to the best grade for the teaching of the various topics, yet it is of importance to know the policy of so large a number of superintendents. It may be presumed that this represents the best judgment of the superintendents based on experience.

OBJECTIVE STANDARDS

The most definite work which has been done in connection with the problem of determining objective standards of achievement for children of the various grades in the funda-

mentals of arithmetic has been done by Mr. S. A. Courtis, director of research of the Detroit public schools. Mr. Courtis has been able to secure the cooperation of hundreds of teachers, superintendents and school officials to the end that his standard tests have been given to thousands of children.

As a result of these examinations Mr. Courtis proposes the following standards for children in different grades in connection with the use of his test, on fundamentals of arithmetic, Series B.

Concerning these standards Mr. Courtis says:

> The following table gives the number of examples that should be worked correctly in the time allowed in the four operations with whole numbers. The scores represent standard speed. Teachers should aim at one hundred per cent. accuracy. At present the average accuracy is about sixty-five per cent.

TABLE I

June Standard Individual Score in the Four Operations with Whole Numbers

Grade	Test 1 Addition	Test 2 Subtraction	Test 3 Multiplication	Test 4 Division
3	3	4	3	2
4	5	6	5	4
5	7	8	7	6
6	9	10	9	8
7	11	11	10	10
8	12	12	11	11

Time Allowance (Minutes)	8	4	6	8
Typical Examples.	345 487 631 205 943 683 859 175 794	3479127468 1867396737	4179 36	67)61707

Translated into words, the table means that in June the graduate of a grammar school should be able to work correctly in eight minutes twelve examples like that under Test 1; in four minutes twelve examples like that under Test 2, etc.

For any class, the per cent. of the class membership which in June can reach or exceed these standards in any operation is a measure of the efficiency of the teaching of that operation in that class. Illustration: If in June eight children out of forty have a score of twelve examples or better in Test 1, with an accuracy of 100 per cent., the efficiency of teaching of addition in that class would be 8/40 or 20 per cent. Teachers are urged to measure the efficiency of their own teaching.

SUMMARY

Summarizing, it is recommended that an economy of time may be effected by, first, the elimination of obsolete material; second, increased emphasis upon the fundamentals in the intermediate grades to the end that the children may have sufficient facility in the use of these phases to make it possible for the work in the upper grades to be centered around a concrete study of the quantitative phases of present-day social and economic life. Third, the drill work should be centered in the third and fourth grades. Fourth, the adoption of the median time in use throughout the country as an upper limit of time distribution. Fifth, introduction of text-book in the third or fourth year. Sixth, completing the 45 combinations by the end of the second year, the multiplication tables by the third year or the fourth year, long division by the fourth year, addition and subtraction by the fifth, multiplication and division of fractions by the fifth, decimals by the sixth, percentage by the sixth or seventh year. Seventh, the standard achievement proposed by Mr. Courtis is commended as being worthy of the serious consideration of the superintendents of this country.

WALTER A. JESSUP
STATE UNIVERSITY OF IOWA

SOCIETIES AND MEETINGS

NATIONAL VOCATIONAL GUIDANCE ASSOCIATION

THIS is one of the educational organizations which holds its meeting in connection with the California meetings of the International Congress of Education and the National Educa-

tion Association. The preliminary program is as follows:

Tuesday, August 17

The General Problem: Jesse B. Davis, principal, Central High School, Grand Rapids, Mich., president; Arthur H. Chamberlain, secretary, California State Teachers Association, San Francisco, Cal.

Vocational Guidance and the Library: Harriet A. Wood, school librarian, Library Association of Portland, Portland, Oregon.

Contributions to the Problem of Vocational Guidance: Sociology: Jessica B. Peixotto, University of California, Berkeley, Cal.; Psychology: Lewis M. Terman, associate professor of education, Leland Stanford Jr. University, Stanford University, Cal.; Medicine: N. H. Bullock, San Jose, Cal.

Vocational Guidance and the Grammar School: Charles L. Jacobs, director of vocational guidance, High School, San Jose, Cal.; Cora E. Hampel, Technical High School, Oakland, Cal.

Vocational Guidance and the High School: Jesse B. Davis, principal, Central High School, Grand Rapids, Mich.; Elsie J. Glover, Polytechnic High School, San Francisco, Cal.; Mary E. Murphy, Elizabeth McCormick Memorial Fund, Chicago, Ill.

Wednesday, August 18

The Faculty Adviser and Vocational Guidance: George E. Marshall, principal of high school, Davenport, Iowa.

Influence of Vocational Guidance on Juvenile Courts, Child Labor Legislation, the Employer, and the School: Meyer Bloomfield, professor of vocational guidance, Boston University, Boston, Mass.

Vocational Guidance Services of the Young Men's Christian Associations: H. G. White, secretary, Young Men's Christian Association, Oakland, Cal.

Vocational Guidance Services of the Young Women's Christian Associations.

Occupational Surveys: Charles R. Richards, Teachers College, Columbia University, New York, N. Y.

Missionary and Propaganda Work by the National Vocational Guidance Association: Frank M. Leavitt, associate professor of industrial education, University of Chicago, Chicago, Ill.

Question Box and General Discussion: W. Carson Ryan, Jr., acting editor, United States Bureau of Education, Washington, D. C.

CONFERENCE ON INTERNATIONAL POLITY

There will be held in California two conferences on war, peace and international polity, similar to the conferences held in Europe by Norman Angell at Le Touquet in France and at Old Jordan's in Buckinghamshire, England. The first of these will be held at the University of California at Berkeley, under the auspices of the University Peace Society, during the week beginning August 30; the second at Stanford University, under the auspices of the Stanford International Club, during the week beginning September 6. These conferences will take the form of informal discussions rather than of lectures, each one present having the opportunity for asking questions. Persons believed to be not in harmony with programs of International Conciliation will be invited from time to time to present their point of view. The conferences are intended primarily for the benefit of those directly interested in the work for peace. Such will be expected to be in regular attendance. All others, especially the students and faculty of the universities, are cordially invited to be present and to take part in discussions. The discussions will be led by Dr. David Starr Jordan, Chancellor of Stanford University, Dr. John Mez of Munich, Mr. Louis P. Lochner, Secretary of the Chicago Peace Society, and Professor Arthur Upham Pope of the University of California, with the assistance of other persons who may be available at the time. The topics of the day are the following:

BERKELEY	STANFORD
August 30	*Sept. 6*
The Place of Force in Modern Civilization.	
August 31	*Sept. 7*
Economics of Modern Internationalism.	
Sept. 1	*Sept. 8*
Armament and Disarmament.	
Sept. 2	*Sept. 9*
Racial and Biological Aspects of War.	
Sept. 3	*Sept. 10*
International Law and Arbitration.	
Sept. 4	*Sept. 11*
Patriotism, Militarism, Imperialism and Democracy.	